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The Oil Pollution Act of 1990, Series... BEFORE THE

COMMITTEE ON
MERCHANT MARINE AND FISHERIES
HOUSE OF REPRESENTATIVES

FIRST SESSION

THE OIL POLLUTION ACT OF 1990 AND ITS ROLE IN REDUCING OIL SPILLS AND ASSURING RESPONSE CAPABILITY

FEBRUARY 17, MARCH 18, 1993

Serial No. 103-8

Printed for the use of the Committee on Merchant Marine and Fisheries



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ARING

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SUBCOMMITTEE ON
COAST GUARD AND NAVIGATION

OF THE

COMMITTEE ON
MERCHANT MARINE AND FISHERIES
HOUSE OF REPRESENTATIVES

ONE HUNDRED THIRD CONGRESS

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CONTENTS

	Page
Hearings held:	
February 17, 1993.....	1
March 18, 1993.....	39
Statement of:	
Bontadelli, Pete, Administrator, State of California Office of Oil Spill Prevention.....	42, 45
Prepared statement.....	149
Coble, Hon. Howard, a U.S. Representative from North Carolina.....	2, 41
Ecker, R.Adm. William J., Chief, Office of Navigation Safety and Waterway Services, U.S. Coast Guard.....	5
Endtech, Inc. (prepared statement by David W. Burget, James D. Freeman).....	202
Fields, Hon. Jack, a U.S. Representative from Texas, and Ranking Minority Member, Committee on Merchant Marine.....	4
Halluska, Capt. Dick, Assistant Vice President for Operations, OMI Corporation.....	64
Henn, R.Adm. Arthur E. "Gene", Chief, Office of Marine Safety, Security and Environmental Protection, U.S. Coast Guard.....	5
Prepared statement.....	110
Hile, Howard B., Vice President, Operations Contingency Management and Environmental Officer, Maritrans, G.P., Inc.	64
Hughes, Hon. William J., a U.S. Representative from New Jersey.....	27
Joeckel, John, Manager, Fleet Operations, Ashland Oil.....	64
Prepared statement.....	197
King, Hon. Peter, a U.S. Representative from New York.....	3
Lazes, Richard, President, Oil Stop, Inc.	42, 47
Prepared statement.....	152
Sankovitch, Nina, counsel, National Resources Defense Council, Inc.	42
Prepared statement.....	144
Smedley, Bruce, Principal Environmental Engineer, Monenco-Agra Earth and Environment International, Limited.....	64
Tauzin, Hon. Billy, a U.S. Representative from Louisiana, and Chairman, Subcommittee on Coast Guard and Navigation.....	1, 39
Weldon, Hon. Curt, a U.S. Representative from Pennsylvania.....	41
Wood, Capt. Dave, Director, Health, Safety, and Environmental Protection, Marine Transport Lines, Inc.....	64
Additional material supplied:	
Coast Guard:	
Balance in Oil Spill Liability Trust Fund.....	30
Comments on Notice of Proposed Rulemaking.....	11
Contracting out.....	18
Cost of contracts.....	8
Crew qualifications.....	13
Status of the Navigation Safety Study Subparts.....	134
Two current contracts.....	18
Updating of Vessel Traffic Services.....	22
Oil Stop, Inc.:	
Tanker self help system for oil pollution control & fire fighting.....	157
Time dependence of oil spill response efforts.....	165
Subcommittee Staff:	
Excerpt from Federal Register of:	
January 6, 1992, on use of automatic pilot.....	107
April 9, 1992, on unattended machinery spaces.....	101
October 2, 1992, on use of automatic pilot.....	90

	Page
Additional material supplied—Continued	
Subcommittee Staff—Continued	
Excerpt from Federal Register of—Continued	
October 2, 1992, on second officer on the bridge.....	97
October 2, 1992, on unattended machinery spaces.....	104
Wall Street Journal: Article of February 12, 1993, "Craft Warning: Unsafe Oil Tankers and Ill-Trained Crews Threaten Further Spills", by Ken Wells, Daniel Machalaba, and Caleb Solomon.....	139
Communications submitted:	
Burgett, David W. (Hogan & Hartson): Letter of November 16, 1992, to Marine Safety Council on proposed rulemaking.....	213
Chafee, Sen. John H., and Sen. George J. Mitchell: Letter of December 21, 1992, to Hon. William K. Reilly.....	142
Subcommittee Staff: Memorandum of February 12, 1993, to Members of Subcommittee on implementation of the Oil Pollution Act of 1990.....	85
Sutherland, Bruce (States/British Columbia Oil Spill Task Force): Letter of November 16, 1992, to Marine Safety Council on proposed rulemak- ing.....	221
Witte, John A. (Donjon Marine Co.): Letter of March 12, 1993, to Hon. Billy Tauzin	218

THE OIL POLLUTION ACT OF 1990

WEDNESDAY, FEBRUARY 17, 1993

HOUSE OF REPRESENTATIVES,
SUBCOMMITTEE ON COAST GUARD AND NAVIGATION,
COMMITTEE ON MERCHANT MARINE AND FISHERIES,
Washington, DC.

The subcommittee met, pursuant to call, at 10:08 a.m., in room 1334, Longworth House Office Building, Hon. Billy Tauzin (chairman of the subcommittee) presiding.

Present: Representatives Tauzin, Hughes, Lancaster, Barlow, Pickett, Hochbrueckner, Pallone, Schenk, Hastings, Taylor, Coble, Castle, King, Pombo.

Staff Present: Sue Waldron, Elizabeth Megginson, James Adams, Rusty Savoie, Matt Szigety, Catherine Gibbens, Bill Wright, Joan Bondareff, Lee Crockett, Tom Lyons, David Honness, Harry Burroughs, Ed Lee, Rebecca Dye, Cyndi Wilkinson, Margherita Woods.

STATEMENT OF HON. BILLY TAUZIN, A U.S. REPRESENTATIVE FROM LOUISIANA, AND CHAIRMAN, SUBCOMMITTEE ON COAST GUARD AND NAVIGATION

Mr. TAUZIN. The hearing will please come to order. Let me first ask those of you who are standing to try to find seats. If there are no seats in the audience, we have got room here at this center table, and you are more than welcome, particularly if you are members of the press and need a table to write on. And once we get everybody comfortable, we will get started.

Welcome to our first hearing for the 103rd Congress on the implementation of the Oil Pollution Act of 1990. During the 102nd Congress, this subcommittee was extremely active in exercising oversight of the process of implementing this important law. We are responsible for ensuring that law is expeditiously carried out in keeping with the intent of Congress. This landmark legislation has already played a key role in reducing oil spills in the country and in assuring response capability should a spill occur.

This winter has seen at least four major oil spills from vessels in other parts of the world: In Scotland, in Spain, Thailand and Estonia. However, since enactment of OPA, there have been, we are thankful, no major oil spills from vessels within our U.S. waters. Although this may be partially attributable to luck, I believe it is primarily attributable to the increased concern for safety many vessel owners or operators now show when they enter U.S. waters. The Coast Guard has also been given a mandate for exercising its authority for preventing unsound vessels from entering our waters.

However, the job of implementing OPA is far from complete. The Act left many questions unanswered. Studies to be conducted by the Coast Guard and the scientific community are supposed to answer those questions. We were hopeful that further study and research would guide us in our future legislating particularly in the area of tanker safety which this committee will be involved in this year. The Act mandated a thorough and comprehensive study of tanker navigation safety standards to be completed within two years of enactment. That study has only just been initiated, and its completion will be several years late.

Although OPA 90 mandates stringent double hull requirements and standards for future construction of vessels, we all know that double hulls will not necessarily prevent an oil spill. The spill involving the *BRAER* in Scotland was a prime example of the type of situation in which a double hull could not have made a difference. More important is the training and the preparation of crews responding to emergencies of all types. Although the investigation of that incident is not complete, it is likely that a better trained and prepared crew might have responded differently to the emergency conditions they were presented with.

Today, we want to address these issues and determine what action, if any, is needed to ensure that these studies are completed on time and that the Coast Guard is properly addressing the issues relating to increased tanker navigation safety. We do not have another 10 years to wait for the resolution of these problems.

Today, our only witnesses will be Coast Guard witnesses. The panel will consist of Admiral Henn and Admiral Ecker of the Coast Guard. However, we will continue the subject of this hearing on another day in the future. We will be seeking testimony from a number of other witnesses representing citizens, environmental groups, industry, and affected local governments.

Before we hear from our witnesses, I would like to first recognize our very distinguished ranking minority member, Mr. Howard Coble. Mr. Coble.

STATEMENT OF HON. HOWARD COBLE, A U.S. REPRESENTATIVE FROM NORTH CAROLINA

Mr. COBLE. Thank you, Mr. Chairman. I too look forward to hearing from Admiral Henn and Admiral Ecker about the Coast Guard's continuing efforts to implement the Oil Pollution Act of 1990. I supported this legislation and believe it is one of the most important bills to have been enacted by this committee during the last several years.

As we all know, oil spills can result in immeasurable damage to our nation's environment, fisheries and coastal economies. While I am confident that many of the statutory implementation deadlines in the bill were possibly unrealistic from the start, it is my hope, Mr. Chairman—I am sure you share this with me—that the Coast Guard will move as quickly as possible in completing the studies required under the law as well as continuing its work in the prevention of and preparation for future oil spills.

Again, I welcome Admiral Henn and Admiral Ecker to this hearing and look forward to hearing from them subsequently. Thank you, Mr. Chairman.

Mr. TAUZIN. Thank you, Mr. Coble. Are there any other members who seek recognition for an opening statement?

Mr. KING. Mr. Chairman?

Mr. TAUZIN. Yes.

STATEMENT OF HON. PETER KING, A U.S. REPRESENTATIVE FROM NEW YORK

Mr. KING. Mr. Chairman, Mr. Coble, I do have a statement I would like to insert into the record, but I would also like to mention parenthetically that the threat of an oil spill was something which my constituents on Long Island live with on a daily basis. There is a heavy volume of tanker traffic that is headed to and from New York Harbor each day, and this is of particular relevance to my constituents. Most recent statistics show about 1,203 petroleum tankers entered New York Harbor in 1992, and we Long Islanders pride ourselves on our beaches, and any oil spill at all is a tremendous threat to us. So I certainly look forward to these hearings today. I commend you for your work, and I would ask that this statement be inserted in the record.

Mr. TAUZIN. Thank you, Mr. King, and that unanimous consent will be extended to any other statements that anyone wishes to enter into the record at this point.

[Statement of Mr. King follows:]

STATEMENT OF HON. PETER T. KING, A U.S. REPRESENTATIVE FROM NEW YORK

Thank you, Mr. Chairman. I'd like to commend you and Mr. Coble for scheduling this important hearing.

Although I was not in Congress when the Oil Pollution Act was drafted and debated, I did monitor its progress very closely. The Act is a giant leap forward in protecting the environment from the damaging effects of an oil spill. It is also a measure that has significant ramifications for the people of my district. According to the New York/New Jersey Port Authority, there were 1,203 petroleum tankers that entered New York Harbor in 1992. We Long Islanders pride ourselves on our many beautiful beaches. It is these very beaches that would be in jeopardy should the unthinkable occur.

Since approximately 80 percent of all maritime accidents are caused by human error, it is crucial that particular attention be paid to regulations relating to navigation safety. This is especially relevant in light of the recent Shetlands oil spill. I am aware that the Coast Guard is currently conducting a study on tanker navigation safety and I look forward to reviewing the final report.

Improving the safety of tanker operations is paramount. We must ensure that this is done in a way that is strict yet realistic. For example, it is important that attention be given to the impact that some of these regulations may have on the smaller operators. While safety needs to be ensured, care needs to be given that regulations are truly needed and are not overly burdensome on the small operators.

There is no doubt that increased safety will greatly benefit Long Island and all our Nation's coastal areas. I look forward to the testimony of our witnesses and the update they will provide the Subcommittee on the implementation of the Oil Pollution Act.

Thank you, Mr. Chairman.

Mr. TAUZIN. I will now recognize also Mr. Coble for unanimous consent.

Mr. COBLE. Thank you, Mr. Chairman. Unanimous consent prior to hearing from Admiral Henn and Admiral Ecker. I would like to place in the hearing record a letter from Senator Mitchell and Sen-

ator Chafee addressed to the Environmental Protection Agency. I agree with the content of this letter which asks the Coast Guard to consider the economic feasibility of vessel and facility owners and operators complying with the Oil Pollution Act's oil spill contingency plans, and I would also like to enter into the record, Mr. Chairman, the statement of Congressman Fields.

Mr. TAUZIN. Without objection, the letter and the statement is entered.

[The letter from the Senators can be found at end of the hearings, and the statement of Mr. Fields follows:]

STATEMENT OF HON. JACK FIELDS, A U.S. REPRESENTATIVE FROM TEXAS, AND
RANKING MINORITY MEMBER, COMMITTEE ON MERCHANT MARINE AND FISHERIES

Mr. Chairman, tomorrow is the deadline for compliance with a major requirement of the Oil Pollution Act of 1990: the requirement for oil spill contingency plans for tank vessels and facilities. It has taken much longer than we anticipated for the Coast Guard and the Environmental Protection Agency to implement the contingency plan requirement and other significant portions of the Act. I do not agree with those who say that these agencies have intentionally failed to implement the requirements of the OPA 90. Coast Guard representatives began working with members of this Committee in 1974 to develop oil spill liability and compensation legislation. Since the *Exxon Valdez* oil spill highlighted the problems of oil pollution in this country, and the Oil Pollution Act was signed into law, the Coast Guard has proceeded to implement the requirements of the OPA 90 in a responsible, professional manner. However, it has been nearly four years since the *Exxon Valdez* oil spill occurred, and two-and-a-half years since the OPA 90 was signed into law. I encourage the Coast Guard to move as quickly as possible in the future to ensure that the environment is protected from unreasonable environmental risks from oil transportation in our waterways.

One of the problems associated with implementation of the Oil Pollution Act is the economic feasibility of compliance with certain requirements of the Act. For example, the Coast Guard and the Environmental Protection Agency should establish reasonable, effective requirements for oil spill contingency plans, considering the competitive viability and economic impact of the requirement on vessel and facility owners and operators. I support a balanced, realistic approach to environmental protection, and think that the Coast Guard and the Environmental Protection Agency should judge economic impacts of response planning requirements on a case-by-case basis.

In the future, I believe that we should focus attention on preventing oil spills by expanding exploration and development of oil and gas resources located along the Outer Continental Shelf. We could significantly reduce the risk to our coastal environment simply by reducing the number of tankers carrying imported crude to the United States.

Thank you, Mr. Chairman.

Mr. TAUZIN. Are there any other members seeking recognition? Then I am very pleased to recognize Rear Admiral Henn. Admiral Henn, you have been before this committee numerous times, and I want to first express my gratitude and the appreciation of this entire committee for the forthright way in which you and your staff have always conducted your business with us and the information you provide us, and I also want to welcome Admiral Ecker to this hearing. Admiral Henn, you are recognized for your statement, sir.

**STATEMENT OF REAR ADMIRAL ARTHUR E. "GENE" HENN,
CHIEF, OFFICE OF MARINE SAFETY, SECURITY AND ENVIRON-
MENTAL PROTECTION; ACCOMPANIED BY REAR ADMIRAL WIL-
LIAM J. ECKER, CHIEF, OFFICE OF NAVIGATION SAFETY AND
WATERWAY SERVICES**

Admiral HENN. Thank you, Mr. Chairman. Good morning to you and the distinguished members of the subcommittee. I appreciate this opportunity to bring before you some comments today with regard to our efforts of implementing certain sections of the Oil Pollution Act of 1990. Admiral Ecker and I both share responsibilities under this Act, and we come here today hopefully to explain to you where we are and where we plan to go and the time lines for doing the same.

As you are aware, the Coast Guard has two general missions under OPA 90. One is to protect the marine environment; the other, more general, but in our mandate within the statutes, is to facilitate marine commerce. We constantly strive to balance these two missions as we work to implement the efforts that the congressional mandates have put forth to us.

Both the *Washington Post* and the *Wall Street Journal* have run articles noting that the United States hasn't had a major oil spill in the past two years. Both articles attribute this fact to greater caution on the part of the oil shippers. There is a new caution in the industry. Oil companies are carefully inspecting the vessels that their products are shipped in, and shippers are exercising more caution particularly in U.S. waters. Spill volumes have declined in recent years. However, we all know that spills can still happen, and we can't afford to sit back and rest.

The Coast Guard will continue to push hard to implement all the provisions of OPA 90. In doing so, we regularly consider, to the extent we are permitted by the enabling legislation, technological and economical feasibility. OPA 90 is without a doubt the single largest tasking which Congress has given us. There are numerous sections most of which are highly interrelated. Among the many tasks of OPA 90 are the completion of a series of studies and reports. These studies are crucial to the rational implementation of the Act. The studies will help identify, one, areas of potential improvement in the marine transportation system and, two, methods of accomplishing that improvement.

In many cases, they will provide us with a range of options and point out the environmental, technological, and economic advantages or disadvantages of each option. We will then be better able to address the problems that are brought up in the studies. Action based on these efforts will only be as good as the underlying study itself. Only through well-designed and executed studies is it possible to craft a balanced and effective regulation. One of the most complex, comprehensive, and potentially far-reaching efforts being undertaken with regard to OPA 90 is indeed the Tanker Navigation Safety Standard Study.

One of the concerns that we have, frankly, is the amount of time it is taking to complete this study. I know this subcommittee is concerned as well. We prepared an interim report that explains the study methodology, gives a snapshot of where we were when we

submitted that a couple months ago, and proposed a 1995 completion date. Why 1995? There are several good reasons why the complete study will take this long.

Obviously, navigation safety is complex. It involves, for example, interaction between the crew, the vessel, aids to navigation, and pilots—and that is just a start. There are a lot of variables, so many that Congress split the Navigation Safety Study into 12 areas or subsections which need to be looked at, each very important in its own right.

As the study progresses, some subsections will be completed before others. However, it will be difficult to take independent regulatory action on a single completed subsection because of the substantial impact that any one subsection has on the other 11. Some of the areas we are looking at will break new ground. We are looking at things that have never been definitely quantified and evaluated before such as the effectiveness of simulators in training. In addition, we are looking at entirely new technology such as the use of a differential global positioning system.

Although the Navigation Safety Standards Study is not complete, the Coast Guard has been developing navigation safety rules independent of the study. Three rules currently in final stages of drafting are those which designate areas where vessels may operate with an unattended engine room, where they may operate with an autopilot, and where two licensed officers are required on deck. OPA 90 also contains manning requirements which would relate to the vessel's navigational ability. The Coast Guard is working on several nonregulatory projects to implement these provisions, and we are making good headway in that area.

I would like to close by saying the Coast Guard has been aggressively implementing the provisions of OPA 90. While we have been criticized in some quarters for taking too long to get regulations on the street, the Coast Guard feels that it is critical to do the job right and do it right the first time. To do the job right requires both accurate information on which to build the regulations and a balanced public review process. Developing the information basis and involving the public in the rulemaking process requires time, but I believe it is time well spent.

Sir, Admiral Ecker and I will be glad to take any questions you have.

[Statement of Admiral Henn can be found at end of hearings.]

Mr. TAUZIN. Thank you very much, Admiral Henn. Admiral Henn, I have included in the members' folders today a story from the Wall Street Journal dated February 12 which details inspections done by BP on a vessel, a Maltese-registered tanker in Amsterdam last year. The story says that they found 73 deficiencies, some of them mind-boggling. The deficiencies included the fact that the vessel had not been updated for 20 years, that two of the engineers were unlicensed, that the anticollision radar was out of whack, that the crew was Greek and Filipino, but the safety and mechanical manuals were written in Serbo-Croatian, that there was no fire control plan, and the crew was ignoring antismoking signs. BP, of course, rejected the vessel as they did many others. But the story goes on to conclude, "Yet, the ship continues to ply international waters for others."

I recall another story—it is not in the packet now. A representative of Shell Oil indicated that 20 percent of the tankers plying the waters right now were fit for the junkyard—a pretty heavy statement. It is incredible that we haven't had a major spill in the last several years. In fact, the committee should be aware that in the last two years since we passed OPA 90, hopefully it has had some effect, that we had a total spillage of only 55,000 gallons in U.S. waters. It sounds like a lot, but it is relatively minor when you consider it is the lowest amount of oil spilled in 14 years.

So, obviously, our Act is having at least some effect, but we are deeply concerned with the ongoing evidence of tankers literally being unfit for service. Good companies rejecting them; less than good companies employing them. Do you want to comment on that and how the Coast Guard regards this situation?

[Wall Street Journal article can be found at end of hearings.]

Admiral HENN. Thank you, Mr. Chairman. Sir, we have noted that there has been a significant decrease in the amount of oil spilled here in the United States during the past few years. If we look at the figures for 1990, there was something like eight million gallons of oil spilled. That did include, of course, four million gallons from the MEGA BORA. Last year, there were 550,000 some gallons, a significant decrease.

OPA 90, I believe—the Coast Guard believes—is one of the farthest reaching pieces of legislation with regard to tanker safety that has ever been passed, and we believe that because it is having effects well outside the borders of the United States. The article you referred to with BP doing their inspections, the article you referred to with Shell doing their inspections—in general, those companies that have a comprehensive company inspection program screening tankers are finding about a 20 to 30 percent rejection rate. That seems to be fairly constant.

As a result of OPA 90 within the International Maritime Organization (IMO), we were able to get other nations to join with us to look at increasing the standards for tankers throughout the world. Obviously, no substandard tanker is going to come to the United States. However, within IMO, there has been a number of initiatives to police the rest of the world also. Again, we think that is the benefit of OPA 90. Certainly, initiatives to improve the quality of the tanker fleet internationally have been driven by the effects of OPA 90. I think I will stop there, sir.

Mr. TAUZIN. You recently completed regulations on vessel response plans, and I understand that those vessel response plans are due tomorrow.

Admiral HENN. Yes, sir.

Mr. TAUZIN. How have you prepared to review those plans, and what is your plan for enforcement?

Admiral HENN. Sir, we put the interim final rulemaking for the response plans out on the street the 5th of February. And, of course, the 18th of February, tomorrow, is the due date for these response plans. Recognizing that we were going to be up against the wall with getting those regulations out in a timeframe where people could develop their response plans, back in September, we put out navigation inspection circulars to give guidance as to what the final rules would look like.

As a result of that, to date we have received over 1,000 response plans at Coast Guard Headquarters for vessels. Now, recognizing that at least one of those plans covers 400 barges, many of the plans cover multiple vessels so we have a sizable population of the fleet that comes to the United States or trades within the United States in those response plans. It is one thing to prepare a plan, it is another thing to review it and ensure that the plan meets the requirements that were envisioned in OPA 90. To do that, we set up a tiered review. The plans that we are receiving today we acknowledge to the person who submitted them—that we have received the plan so that they know it arrived. I am focusing just on vessel response plans.

We then will have a review of the plan, an initial interim review, that will look at whether the plan contain those critical elements that are provided for in the law. Specifically, has the qualified individual been named? Is there indication of what pollution response equipment is available? Is, in fact, the plan in some order that it can be understood and covers all the required information that should be there?

Those elements will be checked. If the essential elements are there, another letter will go out telling the submitter that his plan has been looked at and has passed the initial review.

Mr. TAUZIN. Well, if I can interrupt there, Admiral—

Admiral HENN. Sure.

Mr. TAUZIN [continuing]. if you don't mind, are you fully staffed up to handle this work yet? I know that you have added a new division. You brought on a lot of people. Where are you in that regard?

Admiral HENN. Sir, to not only handle the interim review, but to handle then the final review of these plans, which may take as long as two years, we have contracted an outside firm to review the plans with direction and oversight from the Coast Guard.

Mr. TAUZIN. Well, what does that mean in field terms? Do you have someone else who is going to look at it and tell you what they have found?

Admiral HENN. What we are going to do is—they have the checklist as to what has to be looked at in the plan for it to be acceptable. We have the Coast Guard people, officers, civilian personnel, at the facility checking to see that the review is being done as we would do it if we were doing it ourselves, sir.

Mr. TAUZIN. You had to hire out for this? Didn't you have enough personnel, didn't have enough manpower to get it done yourself?

Admiral HENN. Neither manpower nor space, sir.

Mr. TAUZIN. And just for the record, do you have a handle on what this consulting firm is going to cost us?

Admiral HENN. No, sir, I don't, but we can provide that.

[The information follows:]

COST OF CONTRACT

This contract is an indefinite delivery/indefinite quantity contract, with a guaranteed minimum value of \$75,000 in the base year and \$25,000 for each of its two option years. The maximum that can be awarded is \$3,682,600 distributed as \$1,008,000 in the base year, \$1,476,000 in the first option year, and \$1,198,600 in the second option year.

Mr. TAUZIN. Yes. Submit it for the record. We want to see what it looks like in terms of what the Coast Guard is having to do. And you are saying it will take as long as two years to do a final review?

Admiral HENN. Yes, sir.

Mr. TAUZIN. How many people in the Coast Guard are actually going to oversight this process?

Admiral HENN. At this point, sir, we are looking at about a dozen folks.

Mr. TAUZIN. So a dozen folks are all you have available to oversight this entire process?

Admiral HENN. No. We have more than that available, Mr. Chairman, but—

Mr. TAUZIN. Are they going to be enough?

Admiral HENN. Yes, sir. But the idea is—

Mr. TAUZIN. Can we handle it in the Coast Guard?

Admiral HENN. Yes, sir, we can handle it, and one of the reasons we are going this way is that we see a two-year window when we need the additional resources. We see this as an area where we can focus an outside resource on getting the work done, and then we can stand down from it. So I feel very comfortable with this approach, sir.

Mr. TAUZIN. Now, in terms of the Tanker Navigation Safety Study that you are conducting, do you anticipate that the study will require amendments to the response plans and regulations you publish?

Admiral HENN. Right now we don't envision that, sir, but there are many areas that when we go through this study, we think we are going to find some new things. And there may be areas that will require going back and doing some fine-tuning. It is just premature right now—

Mr. TAUZIN. When you find something wrong, when your consultant says one of the checklist items is missing or it is inadequate, how do you enforce it?

Admiral HENN. Well, after the initial review, where they know their plan is essentially in compliance as far as the major elements, when we get into the detailed review, if we find something that is not in compliance, we will send a letter stating what is deficient in the plan, and that it can be resubmitted. Again, we have some timeframes that we are working toward, like the 18 February date, which many people in the industry and particularly in the international maritime industry refer to as a wall—

Mr. TAUZIN. Yes.

Admiral HENN [continuing]. and I don't believe in that term, but we have the 18 February date to submit. We have the 18 August date where by that time the submitter must be in compliance with his plan.

Mr. TAUZIN. What is the penalty if he is not?

Admiral HENN. There will be civil penalties imposed if he is not, sir.

Mr. TAUZIN. And if you find a deficiency, your first option will be to allow them to correct it?

Admiral HENN. They will be able to correct it, and they will not be operating out of compliance with the plan.

Mr. TAUZIN. How long will they have to correct it and get the plan in compliance?

Admiral HENN. Basically a two-year period, sir. By 18 August, what they must do, if they haven't done so in the initial proposal, is certify to us that indeed they have a contractor who can provide response capabilities.

Mr. TAUZIN. During the next two years you have to complete compliance. Let us talk about crew members. What have you found out about the ability of crew members to respond to accidents and prevent the discharge of oil?

Admiral HENN. I think it depends on which nation you are looking at, sir. In the United States, I think that our U.S. merchant mariners do a fine job. I think they do a substantially better job than in many of the other countries. It is generally recognized within the international community that one of the biggest problems facing the entire industry is the lack of training and certification of crews, not just on tankers but right across-the-board—every ship that sails.

Mr. TAUZIN. You made a very important statement a while ago. I hope all the members of the committee caught it. You said that none of these bad vessels are going to enter U.S. waters. You also said that crew preparation and crew capabilities on some foreign-flag vessels are not necessarily as good as you would like. Has the Coast Guard yet used its authority to turn back any rust bucket or foreign vessel operating without adequate crew capabilities?

Admiral HENN. Sir, we have intervened on vessels that have not met the standards of SOLAS, the Safety of Life at Sea Convention. We detain vessels on a daily basis that do not meet the requirements as far as navigational charts, equipment being in operation such as radars, things like that. We do that continually, sir.

Mr. TAUZIN. You intervene. Have you turned back any vessels at all?

Admiral HENN. Not that I know of, sir.

Mr. TAUZIN. If 20 to 30 percent of the vessels are inadequate, are we restricting those vessels from coming into U.S. waters?

Admiral HENN. What we see, sir, is they are not coming to the United States. There is a general understanding internationally that those particular vessels tend to trade in the Far East, for whatever reasons that may be. Part of OPA 90 is forcing owners to exercise a great deal more care. There is concern about bringing something other than a good vessel to the United States. In fact, other nations are worried that they are going to get the substandard ships because OPA 90 is protecting the United States to the extent that it is.

Mr. TAUZIN. I have one final set of questions, and then I want to turn it over to other members. But before I do that, I want to get an update on COFR's. For the benefit of the members, that is the financial responsibility requirements of vessels that the Coast Guard is still struggling with in terms of regulatory efforts. I just want an update from you.

[The following was submitted:]

COMMENTS ON NOTICE OF PROPOSED RULEMAKING

The extended comment period for the Coast Guard's Notice of Proposed Rulemaking (NPRM), concerning Certificates of Financial Responsibility (COFRs) under the Oil Pollution Act of 1990 (OPA 90), closed January 24, 1992. About 300 comments were filed, most raising concerns with OPA 90's liability regime and NPRM compliance. Detailed examination of all options continues.

The NPRM indicated that the Coast Guard would prepare a regulatory impact analysis. This report is nearing completion and a draft is in prepublication clearance.

The commenters' objections to the NPRM and OPA 90 are essentially the same points raised at the Subcommittee's hearing held November 6, 1991. The Coast Guard has proceeded, and continues to proceed, cautiously in resolving this matter. The Coast Guard seeks to achieve Congress' objectives in enacting OPA 90 in a manner least burdensome to the regulated industry. We are endeavoring to conclude this matter this year.

Mr. TAUZIN. The last area I would like to explore with you very quickly, Admiral Henn, is a Coast Guard sponsored study entitled "Investigating Self-Help Oil Spill Response Techniques and Equipment." The study indicated that a majority of the spilled oil is released from a tanker within the first hour of grounding or collision. It is in that first hour that apparently the most damage occurs. Wouldn't it be wise to require vessel response plans to include boom and other containment equipment be maintained aboard tankers?

Admiral HENN. Well, sir, that is an option that an owner or an operator can choose to exercise.

Mr. TAUZIN. But let me ask it again. If your own study says that it is in that first hour following a collision or grounding that the most damage occurs—if your own study indicates that—why wouldn't you want to require vessels to be equipped to respond in that first hour? Why leave the vessel owner the option when, in fact, getting response equipment to the vessel is likely to take more than an hour if it is not already on the vessel?

Admiral HENN. We discussed that within the negotiated rule-making group that we had, sir, and the consensus of that group, and it was a strong consensus, is that that was not the preferable place to have equipment.

Mr. TAUZIN. Well, tell me why not. I mean, I understand what you did. I want to know why.

Admiral HENN. Well, with the crew aboard the vessel, sir, you have got two problems. One, if you are into a casualty, the crew is going to be tied up with doing things like either ballasting, transferring fuel, transferring cargo, trying to handle lines with vessels that are coming to support, firefighting, things like that. You do not have the resources available to be deploying the equipment.

Mr. TAUZIN. Admiral, are you aware—I am sure you are—that remote-controlled boom deployment vessels are available, and they are operational by a single man on the vessel? We are talking about a technology that exists. It is here. If remote-controlled deployable boom technology is here and it is operational by a single crewmember, why would the consensus develop that we shouldn't require response equipment onboard tankers when your own study indicates that within the first hour most of the damage occurs?

Admiral HENN. Well, sir, again, I think it is the deployment of the equipment. We recognize that it depends on where you are at

for one thing, whether you are in the open ocean or whether you are near shore, what are the wave conditions. Whatever piece of equipment you have aboard is going to be designed for a particular element, something that is good for inshore will not be worth very much in the open ocean. They may actually get a boom out on the water, but will that boom work properly?

Mr. TAUZIN. Well, we don't know, but, I mean, if your study indicates that the probability is that most of the oil spill occurs in the first hour. And we all know that if you can contain it within that first hour that you can prevent most of the ancillary environmental damage.

If the probabilities are that access to equipment in the first hour is critical and that the vessel that is grounded or in a collision is closest to the spill and technology exists for single-man deployment of remote-controlled equipment, why not require it? Why leave it to vessel owners to do that?

Admiral HENN. Well, first of all—

Mr. TAUZIN. I mean, I am really at a loss to understand that.

Admiral HENN. Well, first of all, sir, I think the question is whether the technology is really there so that—

Mr. TAUZIN. You don't believe it is there?

Admiral HENN. I don't believe it is there, sir.

Mr. TAUZIN. Well, that is an important statement because I am told it is there.

Admiral HENN. Well—

Mr. TAUZIN. If your office doesn't believe it is there and it is there, that is a significant factor that needs to get resolved.

Admiral HENN. I believe there is some equipment that has been put forth, that has been tested, and under ideal conditions will work most of the time. But I think that is an area that needs to be looked at further. I think we have to also take a look at who is going to be trained to operate that equipment aboard ship. It is not just a simple matter of putting it aboard there. Someone is going to have to know how to operate it so I think it is more than just saying let us put a widget aboard ship.

Mr. TAUZIN. I don't want to beat it; I will bring in testimony at the next hearing. I want to get the question answered. If you don't believe the technology is there and it really isn't there, then I understand. But if the technology is there and it does work and that the probabilities are that it is the only technology that can reach an oil spill in the first hour when you concede that most of the damage occurs, then maybe we need to revisit this area. I will try to get more information, Admiral Henn, and I would appreciate perhaps you supplying us with whatever information you have for the next hearing.

Admiral HENN. Yes, sir. I think with that whole thing we need to also look at the regime of what do you do with the oil if you can collect it like that.

Mr. TAUZIN. Sure. I understand that. Thank you very much, Admiral. I now recognize my ranking minority member, Mr. Coble.

Mr. COBLE. Thank you, Mr. Chairman. With your permission, Mr. Chairman, I want to depart from the schedule just a moment to introduce to the committee our most newly assigned member

who I am told is present off to our left, Richard Pombo from the 11th District of California.

Mr. TAUZIN. Welcome, Richard. We generally accord to a new member a word of entry and welcome. Would you like to say hello to the committee?

Mr. POMBO. Well, I had about a 45-minute speech prepared, but seeing that we are in the middle of a hearing, I will save it for another time.

Mr. TAUZIN. We never accord that right.

Mr. POMBO. I am just happy to be here, and thank you very much.

Mr. TAUZIN. Welcome and we are very pleased and proud of you fellows for finally filling out your roster. What took you so long?

Mr. COBLE. Thank you, Mr. Chairman. Admiral, I was following your statement, and you indicated that the Coast Guard mission or purpose under the Act was twofold: One, to protect the marine environment. I didn't hear the second one, and I tried to find it here but was unable to do so.

Admiral HENN. Yes sir. The second one, under the general provisions of the laws, is that we operate in such a way to facilitate the maritime community.

Mr. COBLE. To facilitate the maritime committee.

Admiral HENN. Community.

Mr. COBLE. Community. OK. I didn't follow that. This is an impromptu question, and it is an extension of the Chairman's question concerning crew capability or crew response to a spill. For my information and for my edification, Admiral, you indicated that the United States is probably at the top of the heap as far as capability. Name a couple other countries who would be equally or close to our capability, and then I would like to know two or three countries who would be at the bottom of the heap, and that is just for my information. If you don't know it now, perhaps you can get it to us.

Admiral HENN. Sir, I would prefer to provide that in writing for the record.

Mr. COBLE. OK. I mean, we don't like to point fingers, but I think we need to know who the villains are, and then maybe encourage them to come up to speed.

Admiral HENN. Yes, sir. And I think that information is available in media releases, and certainly we can provide that for you, sir.

[The following was received:]

CREW QUALIFICATIONS

I was referring to crew qualifications generally. Several countries other than the United States have long maintained the legislative and agency infrastructure to establish and promote strong crew qualifications, training, and licensing programs. Those with which we are most familiar include the United Kingdom and Norway. Other flag countries are making good faith efforts to improve oversight of their crew qualification program. The International Maritime Organization is supporting their efforts by coordinating requests for assistance in this area through the IMO's Technical Cooperation Committee. The United States is an active participant in this effort and will soon be sending a team under this IMO initiative to the Philippines to assist them in improving their program. To deal with substandard crews, the International Convention on Standards of Training, Certification and Watchstanding for Seafarers, 1978 (STCW), provides for intervention under some circumstances.

Prior to ratifying STCW Convention in October 1991, the U.S. exercised vessel control action for licensing and manning deficiencies under the U.S. Ports and Tanker Safety Act. In June 1992, instructions to USCG field commands were amplified to provide more specific instructions concerning STCW implementation and SOLAS safe manning requirements. In September 1992, the first report of detention of a foreign vessel intervention under STCW control procedures was announced. USCG has taken such intervention action citing STCW control provisions four times. Recently, IMO established a new Subcommittee on Flag State Implementation (FSI), which meets for the first time in April 1993. This FSI Subcommittee will look into methods to improve flag-State implementation and port-State enforcement of IMO instruments such as STCW.

Mr. COBLE. That will be fine. Admiral, how will the Coast Guard deal with the financial inability of some vessel or facility owners to comply with the oil spill response plan requirement?

Admiral HENN. Sir, we have to enforce the law. There is really no way we can facilitate their inability to meet the law. They are required to submit their response plans. They are required to submit them containing the information that is required. If they can't do that, then they are in violation of the law, and we will enforce the law which means there will be civil penalties, or also requiring that they can no longer transfer, store or carry oil.

Mr. COBLE. I don't even like to suggest this because we are leaving doors ajar, but would waivers come into play? Can you see how that could—

Admiral HENN. There is a waiver provision in the interim final rules, sir, and that waiver provision is for companies that are still in the process of identifying the response equipment, the companies that they would use; and until the 18th of August of this year they could request a waiver, and we would consider that. But come the 18th of August, they are going to have to certify to continue in operation that they do have a response contractor or identify individuals that will provide the response capability for them.

Mr. COBLE. Is there a statutory requirement under the Trans-Alaska Pipeline Authorization Act for Alyeska Pipeline Service Company to respond to discharges of oil from vessels in the Prince William Sound, Alaska, area?

Admiral HENN. Sir, as I understand it, as long as the vessel is alongside the facility, Alyeska is responsible under the TAPS legislation to provide a response. But once the vessel gets underway, the vessel is under OPA 90 legislation. Alyeska has contracted with the TAPS tankers to provide a response in the Prince William Sound in those cases, sir.

Mr. COBLE. Well, one final question. Well, strike that—two questions. This one is a very general one, Admiral. Are additional navigation safety requirements needed at this juncture?

Admiral HENN. Sir, we can't say. That is part of the tanker study. My gut feeling is right now that we are in pretty good shape, but part of the study is to find out if there are other weak areas, and certainly if there are weak areas, we would propose additional requirements, sir.

Mr. COBLE. And that could be better addressed, I guess, subsequently?

Admiral HENN. Yes, sir.

Mr. COBLE. Finally, Admiral, does the Coast Guard have authority to unilaterally designate or identify tanker-free zones in or around United States waters?

Admiral ECKER. We can make the designations that areas would be considered tanker-free zones, but once we get outside the three-mile area, we would only be able to make them effective or regulatory for U.S.-flag vessels. For non-U.S.-flag vessels, it would be entirely voluntary, but we have that power and the authority to do that directly affecting U.S.-flag vessels.

Mr. COBLE. And, Admiral, do you do it?

Admiral ECKER. That is one of the studies that we have ongoing at the present time—to examine selected areas on all of the coasts and to then make a determination as to which ones would be appropriate for designation as tanker-free zones.

Mr. COBLE. Thank you, gentlemen, for being with us. Thank you, Mr. Chairman.

Mr. TAUZIN. Thank you, Mr. Coble. Let me explain our procedures at this point to all the new members of the committee. Our procedures in recognizing members for the rounds of questions, which are hopefully limited to about five minutes, will be as follows: The same procedure we used last year. We will always alternate. I will always recognize the ranking minority member first for a round of questions, go back to the majority, and back to the minority so that we have always a balance in our questioning period.

The second thing is that we will recognize members in order of seniority and in order of their appearance at the hearing. So that when the gavel falls, those of you who are here will be recognized in order of seniority. Anyone arriving later will follow in order of arrival. So, Ms. Schenk, you win the honors today. You were here first, and you are recognized if you have any questions at this point. Then Mr. Hochbrueckner would be next. You are recognized for five minutes, sir.

Mr. HOCHBRUECKNER. Thank you, Mr. Chairman. Like Mr. King, I represent a very important part of Long Island. I represent the eastern half of Long Island, and we are, obviously, very concerned about the potential for oil spills. And, Admiral, to follow-up on the Chairman's point, many of us on this committee find it very hard to believe that based on how we voted on OPA and what the words said that, in fact, the interpretation that the Coast Guard seems to have taken through advice of the committee is that the interpretation of carrying on board spill equipment is strictly related only to cleaning up on-deck spills.

As the Chairman points out, we all recognize and certainly your own report points out that, in fact, if you can contain a spill early on, you can do much more and that time kills you, and the longer you allow a spill to disperse, the bigger the problem you are going to have in terms of correcting it. So clearly, carrying on-board equipment on ships in order to provide containment is what we had in mind when we voted for OPA in the first place.

Now, obviously, you pointed out that you are not quite convinced that the technology exists to do the job, but the fact of the matter is, I come from an engineering background. This is no exotic engineering problem to do this. There are systems available today that under most circumstances would allow you to contain a spill near

the ship, and, in fact, there are some systems that will allow you to actually not only put booms out automatically with very little manpower involved, but allow you to, in fact, draw the oil/water mixture back aboard, separate it, and, store the oil in a balloon or some kind of bladder overboard that you could be pumping it into for later salvage.

So it seems to me there is a variety of technologies improving every day that will allow us to get a heads up and early start and to hold down that dispersion of oil and contain the problem dramatically because, let us face it, Murphy's Law always applies in these kinds of circumstances. You can be assured that an oil spill is going to occur at the worst possible time, in the worst possible location, from the furthest point from where you may have deployed your land-based facilities for containment. So you can be assured that is going to happen. Murphy's Law demands it and directs it. So you have got to carry on-board equipment. So I understand your concern. I think you answered the Chairman quite clearly.

My question is what do we have to do here in Congress to convince you that your final rulemaking would say and would direct and require that certain levels of equipment be aboard the ship for deployment by the ship or at a minimum be warehoused aboard the ship for others to deploy or for the crew to deploy once they have dealt with whatever emergencies would require their immediate concern? Because, obviously, if the ship is sinking, you don't worry about putting out booms. You save the ship, and then you say, "OK, now, what can we do?" And if the equipment is aboard and the people are aboard to handle it, that has got to be better than not taking any action so what must we do as a Merchant Marine and Fisheries Committee to get the Coast Guard to put that kind of a regulation in the final rules?

Admiral HENN. Well, sir, I think we have the sense of the committee with regard to the carriage of this type of equipment. I guess what remains to be done is how do we sort out in not only our mind and your mind and the maritime community's mind that it is economically and technologically feasible to do; and I think that would probably be one of the yardsticks that we would want to use, whether that be a matter of hearings, or meetings.

It seems to me one possible avenue is to go out with a notice by the Coast Guard requesting input on this particular matter and take it from there. Certainly, I think it is an area that needs to be looked at. I think there are differing views on this. If the subcommittee is agreeable to it, sir, I think the Coast Guard ought to take that as an action item and go out requesting information and follow up along those lines.

Mr. HOCHBRUECKNER. Yes. Admiral, when would you anticipate that the final rulemaking would go in place?

Admiral HENN. We are under no hard, fast deadline on the interim final rule, sir. We do hope that there are extensive comments on this interim final rule, although we think we have a good package. We think there are certainly areas for improvement in some pieces of it. Therefore, I see no reason why we would have to force going to a final rule until we get it sorted out on this particular issue (i.e., should equipment be carried aboard the vessel), that sub-

stantially goes beyond what the regneg committees advised we should do.

Mr. HOCHBRUECKNER. Now, Mr. Chairman, could I request that you request officially of the Coast Guard that before the final rule-making is put in place that we have the opportunity to sit down with both sides to talk about this circumstance? Because it seems to me the committee, for whatever reason, determined that this didn't make sense, and, therefore, obviously, they had a major impact on the preliminary rulemaking, and we understand that.

But we also feel that there may have been certain biases because when the industry itself is representing itself on a committee that is providing suggestions on rulemaking, obviously, there are certain prejudices that come. And I think it is important for us, who theoretically who have fewer prejudices, that we ought to be in the game at this point because I feel very strongly about this. I think it is absolutely insane to have written OPA the way we did and have it be interpreted this way by people who feel you shouldn't have equipment aboard ships. That is crazy.

Mr. TAUZIN. Would the gentleman yield?

Mr. HOCHBRUECKNER. Yes, Mr. Chairman.

Mr. TAUZIN. I want to acknowledge that I share the gentleman's concern. We intend to have witnesses at our next hearing who will give us some better idea of the availability of this technology. One of the Coast Guard's requirements under the Act is to require, to the maximum extent practicable, the best protection systems available that they are to look at feasibility and economics as well as other concerns. So there are a number of things we need to look at. We are going to look at them. We are going to interact with the Coast Guard in this regard. The gentleman has my assurances of that.

Mr. HOCHBRUECKNER. OK. Now, Mr. Chairman, I have one other point I would like to make. I would like to know how much time I have left because I don't want to—I would sooner save it.

Mr. TAUZIN. The Chair is being very liberal, but I think you have probably gone over five minutes.

Mr. HOCHBRUECKNER. OK. Then I think I will wait for the second round, Mr. Chairman. Thank you.

Mr. TAUZIN. Thank you, Mr. Hochbrueckner. I want to recognize the one remaining, Mr. King. You are up against a heavy load here. You are going to have to carry it on your own, Mr. King.

Mr. KING. Oh, it is a good match. Thank you, Mr. Chairman. First of all, I want to fully associate myself with Mr. Hochbrueckner's remarks. I think this is an urgent matter, and it should be resolved. I just have a few questions, Admiral. In questioning from the Chairman, you stated that there is work being contracted out and being supervised by 12 Coast Guard personnel. Could you give me the name of the contractor that is doing the work?

Admiral HENN. Sir, we have two contractors involved, one that is on board, and then we are going to shift to another to do the major review. We will provide that information for the record if you don't mind. I just don't have it with me right now.

Mr. KING. Also, do you know what the amount of the contracts are?

Admiral HENN. No, sir, but we will provide that information also.

[The following was received:]

TWO CURRENT CONTRACTS

Our current contract is with SATCOM, Inc. and it has a projected cost of \$106,930. The other contract is expected to be let with Engineering Systems Management, Inc. This second contract is an indefinite delivery/indefinite quantity contract with a guaranteed minimum value of \$125,000 and a lifetime maximum of \$3,682,600.

Mr. KING. Also, this is, I guess, a two-prong question. Can you tell me how the determination is made to contract work out and also what the selection process is as to how you arrive at the contractor and how you arrive at the cost?

Admiral HENN. Well, sir, as far as the decision to contract out, it was made between myself and my staff looking at available resources and the time constraints we were operating under, and we made the decision that it was the best approach. With regard to contracting out, we have to go through the standard contracting procedures that all the Federal agencies are subject to, and we can provide you the details of that for the record.

[The following was received:]

CONTRACTING OUT

This contract has been developed in accordance with the guidance contained in Part 19.8 of the Federal Acquisition Regulation.

Mr. KING. Thank you, Mr. Chairman.

Mr. TAUZIN. Thank you, Mr. King. Mr. Hastings of Florida.

Mr. HASTINGS. Thank you, Mr. Chairman. Very briefly, Admiral, what countries in the international community are moving in the direction of OPA 90, if any?

Admiral HENN. Sir, from the meetings we have had internationally at the International Maritime Organization, of course from the media that reports specifically on the maritime industry, obviously, the European countries as a whole are moving that way. Some seem to be moving quicker. Obviously, there is great speculation that the United Kingdom might do something along these lines. Also there is speculation that Spain or some of the other countries on the continent might do something very similar.

The EEC is certainly looking to see whether there is a need to come out with something internationally from their forum. I would hope, and it is the Coast Guard's hope, and I believe that of the United States' that nations not take unilateral action, but work through international bodies so that we can come together on international agreed-upon standards. I think that is extremely important.

However, OPA 90 has been a good signal. It has been a good example for other countries to follow. Many are excited about it, and I would say that there is probably a strong chance that some will exercise it and follow with something along the OPA 90 route.

Mr. HASTINGS. Thank you. Just one other question, if I may, and in a totally different direction, and I will preface it with a remark. I am not a sea person. I have not been associated with large vessels or small ones as it is, so I admit of my naivete. At the very same time, it is pretty obvious to me that certain things come to mind as

just a layperson, and when I watched the television reports of the Shetland oil spill, I was seated with my mother who also has not been a sea person.

And the first thing she asked was, "What the hell were they doing out there in the first place?" I am hopeful that the satellite technology—I guess the name of it is differential global positioning or something I read—when that comes on line, hopefully by 1996, are we going to be able to provide good information to persons recognizing that there are always going to be fools, and they are going to do what they want to do and go on anyway? But it just seems to me that some of these things are weather-associated, and they have no damn business out there. And I just wonder why and what can we do as a Coast Guard or anywhere in this world that will help people to not be in situations like the weather that was in Shetland?

Admiral HENN. Sir, I don't know if you can blame the weather for those accidents. I am talking now of the Shetlands or grounding of the *Aegean Sea* in Spain. It has been said, and sometimes people take it as trite, but you can't legislate or regulate against stupidity, and I am not sure stupidity was involved in either of those cases.

But what can be done and what has been done in the United States is to enact a piece of legislation that goes across the spectrum, and that is OPA 90, that deals not only with the vessel itself—construction with good double hull standards—but deals with the crew, deals with their qualification and training, and then deals with R & D to support that whole regime. So I think what can be done is for us to implement OPA 90 fully, quickly, and to continue our efforts internationally to ensure that something similar to OPA 90 comes out in the international standards at the International Maritime Organization. Indeed, there are efforts underway right now to make that happen.

Mr. HASTINGS. Thank you very much, Admiral, and thank you, Mr. Chairman.

Mr. TAUZIN. Thank you, Mr. Hastings. We now recognize Mr. Barlow of Kentucky.

Mr. BARLOW. Thank you very much, Mr. Chairman. Admiral, thank you for appearing today. I come from the heartland of the inland waterway empire. We have got the Ohio and the Mississippi coming together and the Cumberland and the Tennessee, and I want to compliment the Coast Guard for the fine work that they do in our region on maintaining the waterways and maintaining commerce and safe commerce.

I would like to ask just a couple of questions, if I may, about coming out of this very excellent article in the Wall Street Journal on tanker safety. Do you have the intelligence gathering capabilities to find out what these ships are, the names of these ships that independent inspectors around the world, whether they are with the oil companies or whether they are with the insurance companies, the vessels that get put on probation and marked off as far as the insurance companies are concerned and the oil companies are concerned, so that do you know if they are heading for American waters?

Admiral HENN. No, sir, we don't have that capability today. Most of that is privileged information that the companies keep to them-

selves. However, working through the International Maritime Organization, we are pushing to put a regime together where that information will be available not only to us in the United States, but to other nations around the world. We think that companies would be willing—let me rephrase that. We think that companies may be willing to provide the information if there is some international regime that they could input it to such as a data bank in the International Maritime Organization.

Here in the United States though, we do have a very, very broad marine safety information system where we keep track of any vessel that comes into the United States. If, in fact, it is a ship that has some questionable practices or condition, we flag that vessel in our computers. We detain the vessel if need be. Once it is in a condition that it can leave our ports, we will put paperwork on it directing it not return to our port until certain conditions are met, and we track those vessels. Yes, sir. We track the bad actors, and if a ship has been a bad actor and came into our port, the next time it comes into our port it gets special attention from the Coast Guard.

Mr. BARLOW. Yes. Well, to my way of thinking, you are doing a fine job, and the reason I focus on the international trade even though I am from an inland waterway empire is that if there is a serious spill out there on the seas, why, it affects the entire oil-carrying industry.

Mr. TAUZIN. Would the gentleman from Kentucky yield?

Mr. BARLOW. Yes, sir.

Mr. TAUZIN. The gentleman has asked an incredibly important question, and it is one that probably has to be answered at the next IMO convention meeting. But your answer is that we currently have no such way of getting that information because it is privileged to the insurance companies and the oil companies. How do we change that? How do we get that information?

Admiral HENN. I don't know, sir, other than through an international regime such as the International Maritime Organization. That is the route we are trying to take right now.

Mr. BARLOW. Well, let me just follow-up on the same line. Aren't the insurance rates that Lloyd's is charging an individual ship—aren't they public knowledge within Lloyd's of London? Aren't they posted in some way, or is that, again, private proprietary information within the Lloyd's structure?

Admiral HENN. Again, I think that is private information, sir. I just don't know.

Mr. BARLOW. Is there some way we might be able to find that out? Because if Lloyd's does publish the rates, it would be a signal to us if a rate was extraordinarily high that Lloyd's knew something about that ship and its operations that would indicate that it is a dangerous ship. Might we find that out?

Admiral HENN. I don't know, sir.

Mr. TAUZIN. Would the gentleman yield?

Mr. BARLOW. Yes.

Mr. TAUZIN. The gentleman has given us a good topic for our next hearing. We are going to include that on the agenda. Perhaps we can find out from other witnesses in the industry how we can update the Coast Guard with this information. That is an excellent

question. Thank you, Mr. Barlow. Any further questions, Mr. Barlow?

Mr. BARLOW. No, thank you.

Mr. TAUZIN. The Chair will now recognize Mr. Pallone of New Jersey.

Mr. PALLONE. Thank you, Mr. Chairman. I wasn't here when the Admirals began the testimony so I don't know if this has already been mentioned or whatever. But in the original authorizing legislation, we had some provisions about the vessel traffic service systems, the VTS, and I was particularly concerned because at the time, I guess, of the EXXON VALDEZ, the VTS in New York Harbor specifically was being dismantled. And pursuant to that legislation back in '90, I know there was a requirement that a study be done about which ports should be investigated for possible VTS's or expanded VTS's, and also we were on a schedule to complete bringing back and even expanding the VTS in New York Harbor.

I had something that, I guess, was brought up by the Natural Resources Defense Council at a recent hearing before the Committee on Natural Resources which points out that at this study the Coast Guard's Port Need Study found that 11 U.S. ports would clearly benefit from newer or expanded VTS systems. However, the Coast Guard has made no specific recommendations to Congress to implement these findings.

I really had two questions. If you could answer them now or if not, you know, get back to us through the Chairman. One is where are we now in New York Harbor in terms of expanding the VTS? Is it complete? Is there funding available to continue if it is not complete? And, secondly, generally, what are we doing in terms of these other harbors in terms of expanding the VTS's? I would hope that the Coast Guard is pursuing funding in that regard for not only New York but the other harbors.

Admiral ECKER. I would be happy to answer that question, Mr. Chairman. First let me address the VTS in New York which is operating at the moment. In fact, we have recently expanded the coverage of the New York VTS to include the harbor approaches out through Ambrose and that part of the entrance to the waterway. We also have a very ambitious ongoing effort to upgrade the capabilities of the VTS in terms of the equipment within the vessel traffic center and also to expand the VTS to include the East River out to the Throgs Neck Bridge and also to include the Arthur Kill area so that we will then have complete coverage of the majority of the New York Bight, if you will, East River, and some of the backwaters where some of the heavy traffic vessels ply their trade. So New York is an ongoing activity.

We anticipate that the full expansion including the upgrade will be completed by the fourth quarter of fiscal year '94. And we are very encouraged by the progress that we see with our prime contractor for New York which is the Patuxent River Navy facility which we have brought on board specifically to do New York, and then following New York with upgrades in Puget Sound and San Francisco.

Relative to the other part of your question, dealing with the Port Need Study and the examination of some hundred different waterways throughout the United States, we identified six specific water-

ways with a positive net benefits. In other words, those waterways where the installation of a VTS would be very beneficial. We are working that particular part of the VTS puzzle in terms of an umbrella project called VTS 2000, which is an ambitious expansion which will bring VTS's back into New Orleans, into other places in the Gulf like Mobile, and Port Arthur, expand the VTS in Los Angeles, Long Beach, and also eventually get into Boston Harbor. So we have a number of VTS fronts, if you will, the expansion of the capabilities that we currently have, plus the addition of VTS's in ports that currently do not have them.

Mr. TAUZIN. Would the gentleman yield?

Mr. PALLONE. Sure.

Mr. TAUZIN. Just to update the committee, the Coast Guard had requested and the House had provided appropriations to the tune of \$25 million to fund Vessel Traffic Services. The Senate cut it back. The eventual appropriation was \$9 million. The Senate felt like the Coast Guard couldn't spend it all at one time and cut it back to 9 million so the program has been scaled back in time. Perhaps Admiral Ecker can answer one other question for us. Are you receiving sufficient appropriations to keep VTS 2000 on track?

Admiral ECKER. That is a very interesting question. The VTS 2000 project has been designated as a major acquisition. We have brought aboard a systems engineer in the form of the Miter Company to be our lead with respect to taking us through that very laborious and somewhat torturous acquisition. But for the time being, with the funding that we have for the next few years, I think we will be in good shape, but I anticipate that in all likelihood, as the requirements and the developments get further defined that we will come back to the table.

Mr. PALLONE. Mr. Chairman, through you, you know, if there is an update or some sort of document that basically goes into this and what you said, I would appreciate having that for the members of the committee. It basically, you know, goes into what is being done and what this 2000 proposal is all about.

Mr. TAUZIN. Admiral, if you don't mind, why don't you do a memo for us of the program and its current status so that we can distribute it to the members?

Admiral ECKER. I would be happy to. I think the VTS Port Need Study has already been provided to the Congress—

Mr. TAUZIN. Yes, it has.

Admiral ECKER [continuing]. as part of the reports that we were required to submit to the Congress.

Mr. TAUZIN. We have the Port Need Study. I think the update on activities, where you are, what funding levels, what is going on—particularly an update regarding the improvements in VTS in New York is needed at this point.

Mr. PALLONE. I would appreciate that. Thank you, Mr. Chairman.

[The following was submitted:]

UPDATING OF VESSEL TRAFFIC SERVICES

The Coast Guard is updating and expanding Vessel Traffic Services (VTS) in New York, Puget Sound, and San Francisco. We are working with the U.S. Naval Air

Warfare Center Patuxent River (NAWC) on this project. The following summarizes the status and funding of each portion of the project:

VTS New York—The expansion aspect extends surveillance coverage into the Lower Bay, throughout Arthur Kill and up the East River to the Throgs Neck Bridge. \$6.9 million was appropriated in Fiscal Year 1991 for the Lower Bay expansion and the Vessel Traffic Center (VTC) upgrade. \$4.3 million was appropriated in Fiscal Year 1992 for further expansion. The Lower Bay sector became fully operational on November 1, 1992. The VTC upgrade aspect includes integrated displays and decision support systems. It is expected to be complete in mid-1993. The full expansion is expected to be in late 1994.

VTS Puget Sound—The Puget Sound expansion project extending radar coverage to Tacoma was completed in May 1992. The VTC upgrade integrates all 12 radars into composite displays and enhances the decision support system. \$4.0 million in Fiscal Year 1990 and \$2.0 million in Fiscal Year 1992 was appropriated for the expansion and upgrade. The VTC upgrade is expected to be complete in the 1st quarter of Fiscal Year 1994.

VTS San Francisco—The expansion project extends radar coverage to San Pablo Bay and adds closed circuit TV coverage in Carquinez Strait. The upgrade aspect includes integrated displays and enhanced decision support systems identical to those installed in New York and Puget Sound. \$2.9 million in Fiscal Year 1992 and \$2.5 million in Fiscal Year 1993 was appropriated for the expansion and upgrade. Sites have been selected; real property remote site leases and environmental compliance measures have begun. The expansion and upgrade phases are expected to be complete in the 3rd quarter of Fiscal Year 1994.

The Coast Guard has ongoing improvement projects in other of our VTS's. These can be summarized as follows:

Automated Dependent Surveillance (ADS) in Prince William Sound—This project expands surveillance throughout Prince William Sound by using Automated Dependent Surveillance which employs differential Global Positioning System (dGPS) to provide highly accurate vessel position information. The Coast Guard awarded a contract to install ADS to Raytheon Equipment Division on 31 August 1992. The expected completion date for installation of ADS in Prince William Sound is early in Fiscal Year 1994.

VTS Houston/Galveston—This project comprises an additional radar at Eagle Point to close a surveillance gap in the Houston Ship Channel from Red Fish Bar to Five Mile Cut. It will be completed in the 2nd quarter of Fiscal Year 1994. \$1.3 million was appropriated in Fiscal Year 1992 for this expansion.

VTS Berwick Bay—This project, whose estimated cost is \$430 thousand, includes equipment replacement and VTC improvements. Four new camera sites will be added, and the VTC will be remodeled and refurbished. The work is being done by the U.S. Navy NAWC. The closed circuit TV installations are targeted for completion in the 1st quarter of Fiscal Year 1994.

Status of implementation of VTS 2000—The VTS 2000 project has been designated as a Level I Major System Acquisition. The Mission Needs Statement was approved in July 1992. The 1991 Port Needs Study is being used as a basis for installation of VTS 2000 systems. A total of seventeen ports will be examined for possible installations or retrofit of this system.

The project is currently in the Concepts Exploration phase. We are using contractor support to develop initial planning documents under the Major Systems Acquisition (OMB Circular A-109) process. Requirements analysis is in a very early stage of development. We currently estimate initial operating capability at the first port in Fiscal Year 1996, at the earliest.

Fiscal Year 1993 funding of \$9 million was provided for VTS 2000. This is significantly lower than the requested level of \$24.3 million. The funds provided are sufficient to begin initial planning and preliminary remote site selection in New Orleans, Los Angeles/Long Beach, and Port Arthur. Additional funding will be requested when systems requirements are more fully developed.

[Additional information may be found at end of hearing.]

Mr. TAUZIN. The Chair will now recognize Mr. Lancaster for questions.

Mr. LANCASTER. Thank you, Mr. Chairman. Gentlemen, I apologize for being in another committee meeting during your testimony and early questioning so my questions may have been asked. If so, just indicate that, and I will go onto another question. I am con-

cerned that the comment period ended for the tanker vessel manning and pilotage rulemaking in December, but apparently the final rulemaking is not going to be until the spring. Is there some reason that there is going to be a four- or five-month delay in final rulemaking, and why can it not be expedited to an earlier time?

Admiral HENN. Sir, could you be a bit more specific on the rule-making?

Mr. LANCASTER. Excuse me?

Admiral HENN. Could you state the rulemaking specifically please?

Mr. LANCASTER. All right. The public comment period ended on December 1 for the use of automatic pilot systems, operating requirements for automated unattended machinery spaces, and requirement for a second licensed officer on the bridge. No, that is the wrong one; yes, that is it. Those are the three.

Admiral HENN. Yes, sir.

Mr. LANCASTER. And the comment period ended December 1, but yet the indications are that the final rulemaking is not going to be until the spring. Can you explain why it is going to take several months after the comment period has ended to finalize the rule-making?

Admiral ECKER. The final rule has been drafted and is currently undergoing clearance within Coast Guard headquarters at the present time. Following our clearance on it, it will then be routed through the department and through OMB and then to the Federal Register for publication. I anticipate perhaps a couple of months for that process. But just in general, we had three separate rule-makings that did receive comment from the public. We have evaluated the comments, and we have, in fact, combined each of those three separate Notice of Proposed Rulemakings or supplementary notices which will be combined into one final rule when it is eventually published.

Mr. LANCASTER. Given the length of time that it requires to issue a final rule and anticipating that global positioning will be available throughout the United States on January 1, 1996, did you anticipate that fact in your rulemaking and go ahead and provide for that eventuality, or come 1996 are you going to have to start all over with another rulemaking process to implement and to make use of global positioning as a part of these three rules?

Admiral ECKER. There really isn't a direct connection between differential GPS and these three rules. Differential GPS will be a harbor approach navigation system that will give you increased accuracy as you come close to the shores of the United States. It will enable you to more accurately fix the position of your vessel. I think you are referring to a connection perhaps between that and the autopilot aspect of those three rules, but we are really talking about a connection between navigation and steering so I don't see a differential GPS at this particular time is going to cause us to change any of those three aspects of that combined rulemaking.

Mr. LANCASTER. I wonder if you gave in your statement or otherwise a status on the research on navigation safety standards, and if you didn't, could you?

Admiral HENN. Any specific area, sir? We kind of covered where we were going with the entire study.

Mr. LANCASTER. If you did so, perhaps I will just await reading. Was that in your statement or in response to a question?

Admiral HENN. It is in the statement, sir.

Mr. LANCASTER. OK.

Admiral HENN. And furthermore, sir, if you would like, through the Chairman or for the record, we can submit an up-to-date status of where each of the items is, and we would be glad to provide that information.

Mr. TAUZIN. Well, I would make that request on behalf of the members.

[The material received can be found at end of hearing under "Status of the Navigation Safety Study Subparts."]

Mr. LANCASTER. As the benefits of that study are realized, are they being disseminated to the field so that that research can be utilized before it is finalized?

Admiral HENN. Sir, in the opening statement, I pointed out that we prefer to submit a final report in 1995 with a yellow ribbon on it. However, we recognize that certain subsections are going to be completed well in advance of 1995. Certainly, we think it would be beneficial for us or the subcommittee if the Coast Guard did report on those as they are completed, and, certainly, there are some that I think we will start rulemaking on or provide additional policy guidance before the 1995 date. So, yes sir, I see it as a stepped operation, and I think that the continued briefings either here at hearings or briefings of staff members should continue on this particular study.

Mr. LANCASTER. Well, the important thing is not that the staff gets the benefit of this research but the people who are plying our waters get the benefit of this research. So I would certainly as one member of the subcommittee would urge you that as that research yields safety suggestions that might be beneficial, that they be disseminated even without rulemaking. If that research is to be valid, it certainly is going to make recommendations that may ultimately lead to rulemaking, but companies that are interested in safety might want to implement those particular recommendations without rulemaking if they result from this research.

Admiral HENN. Sir, we can do that, and we will do that, and three ways come to mind. First, we can put it in a national transportation information system so that it can be acquired by anybody. Second of all, we can put this out in notice form that the reports are available. And, certainly, pieces of this will be used, and the international maritime community will take those reports to IMO.

Mr. LANCASTER. OK. Thank you.

Mr. TAUZIN. Thank you, Mr. Lancaster. Mr. Taylor is recognized for questions at this time.

Mr. TAYLOR. Admiral, it appears that the Congress, in giving you some guidelines for OPA 90, was negligent in what I think is a very basic safety precaution that I would hope the Coast Guard would look at, and I need your guidance as to whether or not we should mandate it. In looking at what you do, it is my understanding that every utility boat that the Coast Guard has from 32 feet on up, double rudders, double propellers, double shafts; offshore supply boat business, same thing; tugboats, same thing; and yet in

OPA 90 we are requiring double hulls but not double propellers or double shafts.

And it really wasn't until a visit to the David Taylor Naval Research Center a few weeks ago that it hit me that almost every one of our naval vessels is doing this. Almost every one of our Coast Guard vessels is doing this. And yet we are talking about these enormous ships carrying enormous quantities of oil or potentially dangerous chemicals out there with one rudder, one propeller, one shaft.

And I was wondering since we do have what appears to be an adequate amount of time to change the regulations before they start building these OPA 90-type vessels what your response would be to the requirement that they have double shafts, double rudders and double propellers?

Admiral HENN. That issue has been discussed over the years, sir. It is a good issue to take a look at. In general, I think it bears on items such as reliability, whether it be the machinery component or whether it be the shafting or the propeller. We have seen no driving need to go to dual machinery, dual shafting, and dual propellers. But that is not to say that it is not an issue that should be looked at again.

Mr. TAYLOR. Admiral Henn, would you like to refresh the memories of the people in this room on the case of the Tory Canyon, I believe, which was, if I am not mistaken, one of the first super-tankers to go up on the rocks? What went wrong? If my memory serves me correct, he lost control of his rudder. He could still engage the shaft forward and reverse, but he couldn't steer the vessel. So I am certain of that one. Now, if you would, please tell us what happened in the case of the Shetlands?

Admiral HENN. Well, in the case of the Shetlands, we understand that, at least from the media reports, the main machinery had an operational problem due to probably water in the fuel. And, again, that gets back to why didn't the crew damage control that particular problem? With regard to steering, that area has been focused on within the International Maritime Organization, but it has been in the Coast Guard regulations for decades. And basically we require a back-up system for steering. However, when it comes to boilers, main machinery, propellers or shafting, that has pretty much been looked at from a reliability standpoint, and I think you will find two schools of thought on which is the best way to go.

Mr. TAYLOR. Admiral, let me ask you a simple question now. On your 378-foot cutters, how many propellers, how many shafts, how many rudders?

Admiral HENN. There is at least two of everything there, sir.

Mr. TAYLOR. 210's? The same thing?

Admiral HENN. Yes.

Mr. TAYLOR. Let us think about this. If you were going to require this for every vessel that the Coast Guard sends out from 30 feet on up, if the Navy is going to do it, and we all know why they do it—it is for reliability—should one go down you still got the other to help you get back into port, and you have averted a disaster—doesn't it make sense for the most dangerous ships on the seas to do this?

Admiral HENN. Well, sir, I think you have to look at the operations, and you also have to look at why one type of vessel would

have two shafts as opposed to another, and there is more than one answer to that. Obviously, with combatants, there are speed requirements, and you can only make your propellers so big depending on the shafting, so basically, warships have more than one propeller for the reasons of speed, not to mention redundancy as far as damage control.

With a tanker, you are looking at an operation that is substantially different. It is not supposed to be a combatant. The power requirements are such that you get her up to speed, you steam, then you come into port, and put on lots and lots of tugs entering or going out of port. So we are looking at two different animals, and I am not so sure that a well-run, well-managed tanker is any more dangerous to the environment than a well-run, well-managed cargo ship.

Mr. TAYLOR. Are offshore supply boats combatants? Are tugboats combatants? Are the tugboats on the Mississippi River pushing barges up and down the river today combatants? Now, let us don't be silly. So what you are telling me is we have to mandate it, that you are not going to take any lead in this issue? Because, obviously, I don't see anything—you are certainly not telegraphing that you are in agreement with this position although every single sizable vessel in the Coast Guard inventory, which is not a combative force—

Admiral HENN. It certainly is.

Mr. TAYLOR [continuing]. has twin screws?

Admiral HENN. Well, sir, what I am saying is that there are naval architecture, and marine engineering requirements, parameters that are different for different types of vessels. And I would see a cargo or tank vessel having different parameters than a naval destroyer or a Coast Guard cutter.

Mr. TAYLOR. Thank you, Admiral.

Mr. TAUZIN. Thank you, Mr. Taylor. I am intrigued by the line of questioning, Admiral Henn, and particularly by the questions regarding offshore vessels and tugs being required which are noncombatant. And I really think we ought to explore this some more. I will be glad to join the gentleman in that exploration. The Chair now recognizes Mr. Hughes.

Mr. HUGHES. I thank the Chairman. Mr. Chairman, I have an opening statement I would like to submit for the record, if I might.

Mr. TAUZIN. Without objection, that is so ordered.

[Statement of Mr. Hughes follows:]

STATEMENT OF HON. WILLIAM J. HUGHES, A U.S. REPRESENTATIVE FROM NEW JERSEY

Good morning, Mr. Chairman, and thank you for holding today's hearing on the Coast Guard's implementation of the Oil Pollution Act of 1990 (OPA 90).

As you well know, a number of Members of this Committee, including myself, participated in formulating a national policy on oil spill liability, compensation, prevention, and response. Indeed, for some 15 years, we worked on developing a national framework to protect our inland waterways and coastal resources from oil spills, and provide compensation to those injured by a spill. The result of this tremendous effort was the Oil Pollution Act, a strong oil spill prevention, clean up, and compensation law.

The Oil Pollution Act provides the key components necessary in a national plan, including liability limits for tankers and barges; preservation of State authority; double hull requirements; vessel traffic systems; regulations relating to alcohol and drug abuse; in addition to providing for research and development.

These myriad regulations have undoubtedly placed a heavy burden on Coast Guard resources. Indeed, each year, the Coast Guard is forced to creatively stretch a finite amount of resources over an ever increasing area of responsibility. However, an increased effort to ensure compliance with Federal safety guidelines will translate into a reduction in the need for mitigation, and much less oil pouring into our Nation's waters.

Accordingly, I am interested in the overall status of the implementation of OPA 90. Additionally, last Congress, during a Coast Guard hearing on vessel, area and national contingency plans, a problem of timing of these plans and potential consistency problems were revealed. I would like to know the current status of these plans and what the Coast Guard is doing to ensure that the vessel and area contingency plans being developed now will be in compliance with the national contingency plan?

I am also interested in knowing if the problems with certificates of financial responsibility have been resolved? If not, how the Coast Guard plans to address this problem. Finally, I would like an update as to how the Oil Pollution Trust Fund monies are being spent.

Thank you, Mr. Chairman. I'd like to close by welcoming Admiral Henn and Admiral Ecker. I look forward to hearing your testimony today.

Mr. HUGHES. Thank you. I too want to welcome the panel, Admiral Henn and Admiral Ecker, and just echo the sentiments of my colleagues in praising the Coast Guard for the outstanding job they do every day of every week of every year, and say that we appreciate your services. I just have a couple questions.

In the last Congress, we had a hearing where we learned that there may be some potential problems developing with respect to consistency and timing in the vessel and area response plans and the national contingency plans. I wonder if you can give us a present status of this situation—is the Coast Guard ironing out those potential problems?

Admiral HENN. Yes, sir. At that hearing, I think we started right with the national contingency plan and worked down. Should I follow that route again, sir? Going down through area contingency plans?

Mr. HUGHES. OK. If you would.

Admiral HENN. Yes, sir. The national contingency plan Notice of Proposed Rulemaking has been submitted to OMB for review. We understand that there are still a couple of contentious items in that particular Notice of Proposed Rulemaking. However, based upon the direction that we got from this subcommittee during those hearings, both EPA and the Coast Guard got together with the other 13 agencies to bring that to closure as quickly as we could. And we have been reporting on that monthly to Congress.

With regard to area plans, the area plans are replacing what we call the local contingency plans. We put out guidance several months ago on what was to be in the area contingency plans. We have those plans in various stages of development right now. There is an internal Coast Guard deadline of 1 July of this year for those plans to be out. We expect that they will be out. We see no problems with doing that.

We have designated the areas for the area committees, and the area committees, for the most part, are composed of a standing committee that was already part of each local captain of the port's realm of responsibility. So we see that moving along quite nicely.

And then, of course, where that impacted on each vessel owner and facility operator was the fact that they needed the national contingency plan and the area plans to complete their local plan—

their vessel or facility plan. What we did in a navigation and vessel inspection circular back in September was tell the vessel operators, and tell the facility operators that if, in fact, they used the national contingency plan that exists today, if they use the local contingency plans that exist today to develop their response plans, we would accept those for the first five years of the normal duration of the vessel response or facility plan.

Mr. HUGHES. So basically what you are saying is OMB is reviewing the national contingency plan at this time. Are you receiving cooperation from area vessel operators?

Admiral HENN. Yes, sir. And the area plans themselves will be completed by 1 July of this year.

Mr. HUGHES. So you don't see any problem with consistency?

Admiral HENN. No, sir. It seems to be working out quite fine.

Mr. HUGHES. Let me ask you about the certificate of financial responsibility. You are working out the problems there?

Admiral HENN. Yes, sir. Now, that particular issue is handled by my counterpart at the National Pollution Fund Center, Mr. Dan Sheehan. He is working with the Commandant on that particular issue. I think there has been some general headway, but I just really can't speak to that issue, sir.

Mr. HUGHES. I see.

Admiral HENN. We could have someone here who could.

Mr. HUGHES. So you are not really the one whom we should ask about certificates of financial responsibility?

Admiral HENN. No, sir. The Director of the National Pollution Fund Center would address that.

Mr. HUGHES. That has some real thorny problems attached to it. Do you sense we are making any progress at all?

Admiral HENN. My sense of it—yes, sir, but as you say, there are some thorny problems there, and I just can't speak to the issues.

Mr. HUGHES. OK.

Mr. TAUZIN. Would the gentleman yield? We are going to issue a letter formally asking for an update on it.

Mr. HUGHES. All right.

Mr. TAUZIN. That will supply the gentleman with the answer.

Mr. HUGHES. That is fine. Finally, Oil Pollution Trust Fund moneys—any idea what we have in the fund?

Admiral HENN. I think we are getting close to the one billion dollar mark, sir.

Mr. HUGHES. And what is the fund being spent on, generally?

Admiral HENN. Right now, funds go for claims that are coming in where either they are unidentified spills or where the spiller is identified but has chosen not to accept the responsibility.

Mr. HUGHES. Any idea of what percentage we are spending on administrative costs?

Admiral HENN. No, sir, I don't know.

Mr. HUGHES. Can you provide that for us?

Admiral HENN. Yes, sir, we can.

Mr. HUGHES. I would like some breakdown on what we have in the fund and what we are spending it on with particular focus on administrative costs. All right. Thanks. Thank you, Mr. Chairman.

[The following was submitted:]

BALANCE IN OIL SPILL LIABILITY TRUST FUND

The balance in the Oil Spill Liability Trust Fund (OSLTF) as of January 31, 1993, was \$994,114,913.

The National Pollution Funds Center (NPFC) is charged with administering the OSLTF. Fiscal year 1993 administrative costs for the NPFC we estimate as follows:

Personnel \$6,311,000

General Operating Expenses \$2,043,000

Rent \$466,000

Total \$8,820,000

Mr. TAUZIN. Thank you very much, Mr. Hughes. I had pointed out to the committee earlier—let me say it again—how very pleased we are with the progress the Coast Guard has made particularly as Mr. Hughes has pointed out from the concerns that were raised at the last hearing regarding the cooperation between all these many plans. And Mr. Hughes got into the question which I wanted you to respond to, the COFR question.

But to go back to what Mr. Hochbrueckner raised earlier in conjunction with my own questions—Mr. Hughes, you may have some interest in this—OPA 90 specifically said that not later than two years after the date of enactment the President shall require—not may require, should require, a good idea to require—shall require that vessels operating on navigable waters and carrying oil or hazardous substance in bulk as cargo to carry—not to decide if you want to carry, to carry at your option, to carry if you think it is a good idea—to carry appropriate removal equipment. And it goes on to say that equipment should employ the best economically feasible technology, that is compatible with the safe operations of the vessel.

My concern is that the qualifying language is now being used to obfuscate the intent of Congress, and the intent of Congress was clearly to say that the vessel must carry some equipment. The Act does direct vessels to carry something that is technically or practically infeasible or that is economically infeasible, but it directs that you have to carry something—some booms—something. And I guess it gets back to what Mr. Hochbrueckner and I were talking about. We are going to explore those issues of safety and compatibility and economic feasibility and technological feasibility at our next hearing.

But I just want to point out, Admiral Henn, that it is hard for me to read this section, to remember our debates at this committee, and to remember the conference committee or the Senate and not come away with a very strong recollection that we intended these rules to require that response equipment be carried on every vessel, not that the rules say you can if you want to carry them. You know, it goes back to very clear language of the bill that says you have got to carry something. We are going to explore that further, Bill.

I want to turn now to my friend, Mr. Hochbrueckner. Before I do, I have got to recognize we have got a new arrived member, and let me find out whether Mr. Castle has any questions for the Admiral at this time. I will come back to Mr. Hochbrueckner.

Mr. CASTLE. Thank you very much, Mr. Chairman. I just have a couple of points. First of all, I apologize for not being here throughout. I think this business of being on multiple subcommittees and

being dragged from one place to another is ridiculous in Congress but—

Mr. TAUZIN. We probably need some reform—

Mr. CASTLE [continuing]. that is a fight for a different day, I suppose. I also feel like I am in Madison Square Garden. You are down on the floor someplace; I am up in the rafters. I apologize for that, and I missed a lot of what has happened so I don't want to repeat necessarily. But as the Governor of Delaware, I dealt with two oil spills, which you are probably familiar, the Grand Eagle back in 1985, but most importantly, the Presidente Rivera back in '89, and mostly dealing with the Coast Guard in Philadelphia.

And I have got to tell you it didn't go particularly well. I am not going to sit here and play games, but we eventually almost abandoned the use of the Coast Guard and went with our National Guard, of all things, to help with our cleanup which went a lot better. And I have got to say it was much, much worse. The Coast Guard was at least cooperative and helpful.

I just didn't feel that we got everything done that we should, and in reading your testimony and in listening to the sense of the Chairman's statements here and questions just as I came in, I get the impression that things still aren't quite in place as we would like to see them in place although I think the Coast Guard has really done a lot in the last several years to try to improve on that status. But I am concerned that there is sort of a lack of urgency, if you will, and I know this is all very expensive.

I would just like to get assurances that even when all conditions aren't yet met in terms of regulations which are needed or equipment on board or whatever it may be that this is being made a high priority. And, secondly, I am very curious as to where the private sector is in this. Now, if you have already commented on this, please keep your comments brief. But I go through these sort of press conferences and read about what the oil companies are doing such as the PERO business as I recall, and then about a year or two later, I find out it is not going into place. It never seemed to have been enacted the way they talked about it.

I am not at all convinced in those narrow shoals that make up the Delaware River and Bay and probably throughout this country that we really are taking all the precautions that we need throughout, and some good things have happened, but not perhaps enough.

So I am a bit of a skeptic, and I remain open to having it proven otherwise, but I consider those to be dangerous waters with some potentially environmentally very harmful problems which can happen, usually by human error I might add, which is the worst part of it. Somebody drinking or not paying attention or a language barrier or whatever it may be is usually the way it happens, but I am very curious as to just where everything is in terms of the private sector and indeed in terms of the Coast Guard's view of the progress it has made and the urgency which other things still have to be done?

Admiral HENN. Yes, sir. With regard to the requirements of OPA 90, obviously, there are about 100 requirements; almost 40 regulations, 30 reports, and 30 studies that need to be done. I am happy to report that all the rulemakings are underway and that 11 of those are in the final rule or interim final rule stage. So I am very

pleased with that progress, and I think we have been very aggressive in that area. I think in the area of the studies, we have put together a study regime that is going to deliver not only midterm but long-term results.

Certainly, OPA 90 is the yardstick by which the rest of the world is looking to do business within their own nations. Certainly, the United States is a leader in the world as far as environmental protection. I am happy to report too that PERO did become the MSRC, but even beyond that, there is a whole regime of oil response, pollution response organizations today that did not exist prior to OPA 90, so we have come a long way. We still have a ways to go, but I think we are getting there fairly quickly.

Mr. CASTLE. And on the private sector, how do you see what they are doing?

Admiral HENN. The private sector has never had the degree of awareness that it has had since the passage of OPA 90. I think more importantly, it is not just the private sector of the United States but the private sector of the world that now has focused on the issues. So we have had superb input from the private sector. The negotiated rulemaking was one of the bright points in this whole regulatory scheme, and I say one of the bright points, because we took environmental groups, industry groups, sat down side by side and hammered out what were not only economical, but we feel technologically feasible requirements. So we have got private sector support and input that did not exist before OPA 90.

Mr. CASTLE. You know a lot more about this than I do, but I still get the impression that the private sector is not pulling its full weight on this whole issue, and that they have started and stopped a few times with respect to what they are doing. I can't, unfortunately, define that specifically because I really don't have the wherewithal in which to do that in terms of my knowledge.

But I do not get the impression that they have done all that they said they would do since VALDEZ and a few other things have happened out there. Do you sense that, or do you sense that they really are doing all that they can and should do?

Admiral HENN. Sir, there may be pockets of that, but I couldn't identify the pockets. What I can tell you is that internationally, there is a revolution going on in the maritime community. It started here in the United States. It has now grown outside of our borders—all the way from putting ownership back to where it belongs with owners and operators to a series of safety nets and includes the flag states, the classification societies, the insurers as well as the port states themselves. So I just think OPA 90 has had ramifications that we probably won't fully appreciate until well into the years of the next decade.

Mr. CASTLE. Thank you, Admiral. Thank you, Mr. Chairman.

Mr. TAUZIN. Thank you, Mr. Castle. Let me echo the Admiral's statement about the negotiated rulemaking process. We have been very impressed with it, Admiral, and the fact that you were able to get parties from the private sector, the environmental community and industry parties involved in the process, obviously, has expedited and I think produced better rulemaking. I just want to echo the Admiral's views of that and also to point out to Mr. Castle and others that while I remain critical of this or that feature of the

Coast Guard's activities, I remain highly complimentary of the Coast Guard's Implementation of OPA 90.

One of the highlights I mentioned before you came in, Mr. Castle, was that the report in the Wall Street Journal indicates that we have not had a major oil spill in U.S. waters in the last two years. That is extraordinary. Last year we had 55,000 gallons spilled which was the lowest in 14 years. So somebody is scared to death out there, and something seems to be working. The awareness levels are up, and I think we are getting more action from the private sector.

One thing remains true in the private sector, Admiral, that takes me back to what I know Mr. Hochbrueckner wants to get into, and that is that where there is a competitive disadvantage in doing something unless we require it, mandate it, we can't expect the private sector to do it. For example, carrying response equipment on board a vessel—if it is expensive, if it does put a particular vessel at a competitive disadvantage, it is not likely the vessel owner will do it unless we require it in the plan.

That is why I am so interested in onboard response equipment and why the Coast Guard wasn't chosen to require it. What I am concerned about is that vessels looking at competitive disadvantages may not choose to do what we clearly intended and hoped they would do. In fact, we thought we had mandated that vessel keep something on board to respond immediately in that first hour following a spill. So we will keep asking about it. I do want to have room at the next hearing to bring as much information to the subcommittee's attention as to what is technologically and economically available right now. If you would like to respond?

Admiral HENN. Mr. Chairman, if I could just add a footnote, we do have a rulemaking on removal equipment that has gone out as a Notice of Proposed Rulemaking. This is the equipment that you referred to as the first aid equipment aboard ship. I think the point we were discussing was the degree and the amount of that equipment, but there is a rulemaking on this, sir. It is going to final rule. However, obviously, we won't take it to final rule until we get more input on that.

Mr. TAUZIN. Yes. We will try to help you in that regard. I mean, you know my purpose here is not to put any of you on the spot. You are doing as much as you can as fast as you can. That is my belief. We simply want to point out the areas where we think we see some holes and where perhaps we can be of help to resolve some of these. One of these, by the way, is debatable—tanker-free zones. I want your thoughts on that before I turn it to Mr. Hochbrueckner.

There is an obvious political movement afoot for governors like Mr. Castle who have to face the public on a spill and for others representing coastal states to say, "Hey, the easiest thing for us to do is create a tanker-free zone in an area where we think there is some danger to the environment or some hazardous navigational circumstances."

If we go through a rash of that, if all of us started invoking and implementing tanker-free zones, is that going to help or hurt tanker navigation safety, in general, for America? What are the

implications of that? Can you give that a quick look for us, Admiral Ecker?

Admiral ECKER. We have in the United States already adopted or designated areas to be avoided. We have done this off the Florida coast, and off the California coast in the vicinity of Santa Barbara. We have done this also in the Hawaii area and also in the Nantucket area. The study that I mentioned earlier, where we are looking at specific areas of the coast, will do exactly that, but what we are concerned about is that we don't create a tanker-free zone and thereby introduce a greater risk in another area. So the study has to be comprehensive in terms of looking at what the ramifications might be. If we designate a certain area where tankers can't go, what will happen when they go to the other area and what will be the impact on traffic in that area?

Mr. TAUZIN. So how do we avoid the—it is the old NIMBY syndrome, you know—Not In My Back Yard—how do we avoid that? Obviously, if every one of us said our areas were tanker-free zones and there was only one area left to bring tankers in, it would be rather congested and perhaps rather dangerous. How do we avoid that natural inclination for us all to push the problem off on our neighbor?

Admiral ECKER. Well, I think that is what the study is trying to do. We are looking at density. We are looking at trajectory for oil. We have gotten a lot of data from Minerals Management Service, and, again, looking at the places where tankers do go to, rather than increase the risk. We are trying to do it in a balanced fashion, in an open manner. I think we should be able to come up with something that will increase safety margins.

Mr. TAUZIN. Thank you, Admiral. Mr. Hochbrueckner for a second round?

Mr. HOCHBRUECKNER. Thank you, Mr. Chairman. In fact, your question provides a nice segue into my next point. Admiral, first off, let me say that I came on a little bit stronger earlier, but from my own point of view with the Coast Guard, your Group Moriches unit has done very fine work on Long Island. We are very pleased with what they have been doing.

But along these lines in terms of the concern that we have about tankers and problems they do have, in your testimony on page six you state in the middle of the page, "Additionally, the Coast Guard has initiated a long-term '92 through '96 research and development effort to determine the skills required to operate automated ships and to recommend training procedures. In fiscal years '93 and '94, this effort will collect data on automated bridge equipment and determine the training requirements for bridge tasks under various levels of automation."

What I would like to point out is we recognize that about 80 percent of the maritime accidents are human error, and certainly the concern that my colleague, Mr. Taylor, discussed earlier relates to 20 percent of the accidents where you have a ship problem with the loss of rudder control or what have you. But 80 percent of the accidents are human error, and so I wanted you to be aware that I am working on an area that I think can help to reduce the human error associated with tankers going on the rocks.

Now, as you know, because I am an aerospace engineer, and for many years we have been very successful in developing navigation systems that have been able to, in essence, fly aircraft thousands of miles and end up right on the button when they get there. And, with global positioning satellite accuracies today, certainly with differential GPS or just straight GPS, if you could have access to the military level, you are good to seven to ten feet in terms of knowing your present position on this earth.

So I just wanted you to be aware that I am developing legislation that, in essence, would require—and I think the Chairman made a very important point—when we talk about OPA 90 and other things, it turns out that many of these things they wouldn't normally do on their own unless the insurance companies clearly spelled out that if you had this kind of a system we would give you a big break, and because, obviously, if your accident levels are reduced, it would be worth your while from an insurance level point of view. But you have to put things in order here, and it just seems to me that it makes sense to require things in order to improve safety and make ship owners do what they probably ought to be doing in their own best interest anyway.

And so this would be a bill that I am working on and have been developing that would require a navigation autopilot system for tankers. It is, from my perspective, a very straightforward engineering problem. It is no big deal to, in fact, build such a system, and there are many on the market today. The question is requiring them and what would be in them.

And what I envision is sort of a two-level. The bigger ships would have the Cadillac version; the smaller ships would have the Ford version. But, essentially, it would be a global positioning satellite-based navigation system which would have direct inputs into the steering system to give you autopilot capability.

Of course, this would not relieve the pilot or the captain from the responsibility of running the ship. This is a navigation steering aid—only an aid—another tool for them to use. What I envision, for example, is any ship that would come within the limits that we control—12 miles plus the inland waterways—what I envision would be as a ship approached the Mississippi, they would, in fact, put a diskette into the computer which would clearly show on the display where the shoreline was as well as the optimum track for that ship to go up the river with the shoals and all of the other hazards indicated on the display.

And, of course, using the global positioning satellite inputs, the ship would know its present position within seven to ten feet, and, of course, by taking into account wind speed and direction as well as water speed and direction, you could automatically steer the ship up the desired track and monitor your progress as you go both visually and from the display system.

And so I envision this kind of system as being, as I say, a very straightforward engineering problem. It is no big deal to do. What is a big deal is to require that it be imposed, and I know that you are working in this area, and I just wanted to let you know that I will continue to be working on this kind of legislation, and I will certainly seek your advice and work with you folks as closely as possible because I think it is the right thing to do, the time is here,

and problems like the *Exxon Valdez*, the Shetlands problems should not have happened and would not have happened if this kind of system was, in fact, imposed. And for the minimum cost that we are talking about with the availability of these equipments today, clearly, this makes sense, it is the right time, and so I will be talking with you.

And I don't really have a question, Mr. Chairman. This was more of a statement of what I am doing and what I will be coming to you with hopefully with the support of my colleagues on this committee and in this House. Thank you, Mr. Chairman.

Mr. TAUZIN. It was a long speech, but it was good. You can both respond.

Admiral ECKER. Just a short response, sir. We have been working, as you well know, in the development of a differential GPS system for quite sometime. We also have been working in concert with a number of other agencies, both within the government and in the private sector, in the development of the technology of electronic charts. This is not a United States alone initiative. Other countries are also developing these systems for their own utilization.

My concern would be, as we move into what I would call this new technology, the integrated navigations systems or integrated bridge, that we do this, again as Admiral Henn mentioned earlier, in an international effort, that the standards we develop be standards that are agreed upon internationally so that all ships will be carrying basic equipment that will be able to be utilized around the world, not just in United States ports. But these are areas that we are looking at. They are very promising—taking advantage of satellite technology, and I think we are going to see a lot more of these things in the future.

Mr. HOCHBRUECKNER. If I may respond, Mr. Chairman? I am delighted with the work that the Coast Guard is doing, but I also recognize that there is a tremendous amount of inertia in the world, and we need to provide the leadership on this, and I think one way to do it since we are such a major consumer of foreign-based petroleum crude that, if we provide the leadership, we can draw the world into pursuing this path much more swiftly. Thank you.

Mr. TAUZIN. I might follow-up on the gentleman's comment by indicating that the Chair intends to hold a subsequent hearing that will, in fact, examine the gentleman's legislative proposals as well as suggestions of Mr. Taylor and others for additional mandates on equipment on vessels. So we will give it a complete overview at one time and have a chance to examine what, in fact, technology does exist, where it exists, and what the insurance effects would be upon any of those requirements. So we will have a chance to explore that thoroughly at some point. Any further questions from Mr. Castle?

Mr. CASTLE. No.

Mr. TAUZIN. Then, Admiral Henn, Admiral Ecker, let me thank you again. We will, as I said, follow-up this hearing with a hearing from the industry and the environmental groups and others who have some concerns about OPA implementation. We will also be sending a letter of request for an update on COFR. You have both

agreed to submit some memos to us updating the subcommittee on various issues that came before this hearing.

Again, I want to thank you and reiterate that while we have some concerns, and we are always going to have some complaints with the way things are done, our general impression is of extraordinary cooperation and a great deal of diligence on the part of the Coast Guard in implementing what is an extraordinarily complicated set of mandates from the Congress.

We want to thank you again, Admiral Henn and Admiral Ecker, for your cooperation and your continued desire to work with us in that regard. With that stated, the hearing stands adjourned.

[Whereupon, at 12:00 p.m., the subcommittee was adjourned.]

THE OIL POLLUTION ACT OF 1990

THURSDAY, MARCH 18, 1993

HOUSE OF REPRESENTATIVES,
SUBCOMMITTEE ON COAST GUARD AND NAVIGATION,
COMMITTEE ON MERCHANT MARINE AND FISHERIES,
Washington, DC.

The subcommittee met, pursuant to call, at 2:00 p.m., in room 1334, Longworth House Office Building, Hon. W.J. (Billy) Tauzin (chairman of the subcommittee) presiding.

Present: Representatives Tauzin, Lancaster, Barlow, Stupak, Pickett, Hochbrueckner, Pallone, Laughlin, Hastings, Taylor, Coble, Bateman, and Fowler.

Staff Present: Elizabeth Megginson; Rusty Savoie; Matt Szigety, Catherine Gibbens; James Adams; Greg Lambert; Sue Waldron; Harry Burroughs; Cyndi Wilkinson; Rebecca Dye; and Margherita Woods.

Mr. TAUZIN. The hearing will please come to order.

Let me make a couple of announcements first. If any of you are here today for the markup of the Passenger Safety Bill, that markup has been tentatively rescheduled for March 31st. As you recall, we had indicated we were going to expedite that markup pending resolution of several outstanding issues. Those issues are still being resolved. So we have delayed the markup until the 31st.

Secondly, we have got room at the center tables, particularly for members of the press, if you would like to sit down. We welcome to you take a seat so that you might be more comfortable and keep the aisles open so that the fire marshal doesn't come in and shut us down.

STATEMENT OF THE HON. W. J. (BILLY) TAUZIN, A U.S. REPRESENTATIVE FROM LOUISIANA; AND CHAIRMAN, SUBCOMMITTEE ON COAST GUARD AND NAVIGATION

Mr. TAUZIN. Good afternoon. I welcome the Members of the subcommittee to another of our series of hearings on the implementation of the Oil Pollution Act of 1990. This hearing was called to address the issue of whether the Coast Guard has adequately implemented Section 4202(a)(6) which requires the President to adopt rules for on-board carriage of oil spill response equipment.

During the lengthy and intensive debate on the Oil Pollution Act, this committee heard extensive testimony regarding the failure to promptly respond to spills and the extensive damage that is suffered by the environment when oil leaves the immediate area of a spill. We received testimony about the delays after the *Exxon*

Valdez spill. A faster response might have prevented some of the damage to Prince William Sound in Alaska.

We addressed this issue by requiring shore-side response capability, contingency planning, and vessel response planning. We adopted Section 4202 to develop a coordinated national response planning system.

One component of that system was vessel response planning. Many in Congress believed that vessel operators share the responsibility for immediate response to spills from the vessel.

This includes immediate notification of the government authorities, including the Coast Guard, but also a vessel's specific plan for dealing with the spill. We believed that time was of the essence in a spill situation and adopted the requirement for on-board spill removal equipment.

In passing the law, we also recognized that there were limits on the ability of vessels to remove oil from water. We were sensitive to the costs imposed on vessel owners and operators. And we were even more sensitive to the safety concerns of the crew in an emergency situation where the vessels itself was at stake.

I am even more sensitive to these issues because of a recently completed study by the General Accounting Office of the impacts of fees, taxes and other charges assessed on the maritime industry. You will recall we ordered a comprehensive review by GAO. That report has come to us, and we are currently analyzing it, but the cumulative effect of cost and taxes and fees on the industry is of course a serious concern to this subcommittee.

I realize that OPA and other recent environmental and safety initiatives have indeed imposed new costs. The law recognizes the priority that safety of the crew must take, and these costs. However, we believed that with new and emerging technologies, these issues might be adequately addressed and some forms of on-board removal equipment would be required at some point.

Today we would like to hear about the process that was used in developing the proposed rule regarding on-board removal equipment and the underlying reasons supporting the proposed rule. We have some concern that the Coast Guard has not fully explored this issue and may not have adequately supported their decision with research and study of currently available technology or technology that could be developed within the very near future.

We have sought witnesses who represent a diversity of opinion on both sides of the issue. We have not asked the Coast Guard to testify today as we feel they need to consider this information as well.

The Coast Guard's proposed rule reflects the recommendation of the negotiated rulemaking committee that consisted of representatives of various affected groups including vessel owners and operators, States, environmentalists, and response contractors. Most of our witnesses today were key players in the negotiated rulemaking and hopefully will provide us with insights into the development of this rule. I look forward to hearing from them.

I would like to welcome the Members of the subcommittee and recognize my esteemed colleague, our Ranking Minority Member, Congressman Howard Coble of North Carolina, for his opening statement.

**STATEMENT OF THE HON. HOWARD COBLE, A U.S.
REPRESENTATIVE FROM NORTH CAROLINA**

Mr. COBLE. Thank you, Mr. Chairman.

I look forward to our second hearing of the Coast Guard's implementation of the Oil Pollution Act of 1990. I realize, and I think you touched on in it your opening statement, that the Coast Guard's proposed rules on removal equipment have been criticized by some for not requiring more cleanup gear or equipment on board vessels which transport oil and other hazardous substances.

I also am aware that the demand for compliance with this law is also conditioned upon the sound practice of good safety. So there has got to be some sort of balance struck, it seems to me, on what can be a very delicate issue.

I look forward to hearing the various opinions about the adequacy of these rules.

Mr. Chairman, I thank you for having called this hearing today. I thank the Chairman.

Mr. TAUZIN. Thank you, Mr. Coble.

Any other opening statements?

[The statement of Mr. Weldon follows:]

STATEMENT OF HON. CURT WELDON, A U.S. REPRESENTATIVE FROM PENNSYLVANIA

Mr. Chairman, I commend you for holding a hearing on this very important matter today. As Chairman of this Subcommittee, you have played an important role in both the passage of the Oil Pollution Act and currently its implementation. As we all know, next week is the fourth anniversary of the *Exxon Valdez* spill. Without a doubt this will serve as a sad reminder of the tragedy associated with oil spills and that efforts are needed to develop effective response procedures.

As the former Chairman of the Congressional Fire Services Caucus and a former firefighter, I feel that I can bring some insight to an often-ignored aspect of oil spillages. Further, having presided as one of the on-scene commanders at the collision of the oil tanker CORINTHOS T1 AND THE CHEMICAL TANKER QUEENIE in 1975, I have a particular interest in this issue which long pre-dates my tenure in Congress. My experience at that incident, my involvement in civilian fire protection, my work on the Armed Services Committee with the Navy's Department of Shipboard Safety and Survivability have all reaffirmed my convictions that fire, under any circumstances, is a hazard to be taken seriously. In the case of oil tankers, it can pose a very grave threat to human life and vast stretches of environmentally sensitive shorelines.

Today, I would like to express my concern for the new rules proposed by the Coast Guard under the 1990 Oil Pollution Act requiring tankers to carry equipment that enables the crew to respond to oil spills. In particular, upon review of the proposed rule, I do not feel that it adequately considers the devastating effects associated with shipboard fires. While the number of fires and explosions on board oil tankers is admittedly small, when one occurs, however, the damage is generally extensive and severe.

If we are to consider recent spills such as the *Exxon Valdez*, the MEGA BORG and most recently the BRAER off the Shetland Isles, we realize the importance of ensuring adequate oil spill response equipment on all vessels. A perfect example of this is the travesty of the MEGA BORG in 1990. As I am sure many of you recall, this vessel burned for six days and released over 3.9 million gallons of oil into the Gulf of Mexico. Not only does this incident attest to the fact that vessels need to develop fire prevention and fire response plans but they must also carry appropriate fire-fighting equipment and personnel with expertise in ship-board fire suppression.

Sufficient quantities of firefighting equipment such as foam, proportioning equipment, delivery devices, and breathing apparatus are all crucial to a successful fire-fighting effort and must be available on demand in situations where fire poses a direct and substantial threat to the marine environment.

As you may know, foam is often referred to as "light water" and is the only way to extinguish a petroleum fire. Foam is essentially a compound of water and another substance which allows the water to float on the oil and thereby put out the

fire. The result of applying regular water in a stream, for example, would not only fail to extinguish the fire, but could actually worsen the spill as sinking water would force oil to the surface.

Additional technologies also exist that are to monitor atmospheric and other conditions on board ship which might lead to a fire or explosion. These "wireless systems" function on a principle similar to cellular phone networks, cost relatively little and can be installed without laying a ship up for any period of time. "Wireless" early warning systems are currently being used by the U.S. Navy, but have not yet been used in commercial shipping.

If we are serious about responding to oil spills, then an emphasis must be laid on controlling the factors that lead to a major oil spill, such as fire.

As with tanker groundings, the key to preventing tanker fires from creating massive oil slicks is rapid response. The best chance for controlling a spill occurs in the first few hours after the spill. Incidents such as the MEGA BORG raise the concern that the complexity of the situation, explosions and fire, unnecessarily delay actions that could have contained the spill.

While the Coast Guard is not here today to testify on the proposed rule, I am interested in any comments that the witnesses may have on the need to ensure that vessels carry appropriate firefighting equipment and develop adequate response procedures.

Mr. TAUZIN. We will proceed to our first panel.

We have two panels and a number of witnesses today. I will ask all panel members to recognize that by unanimous consent their written statements are a part of this record. We will ask all of you to limit your summaries of your opening statement to approximately five minutes. We are going to have to stick by that rather closely if we are going to get our work done and still make Floor votes in this budget debate.

As a result, I am going to ask you again to be concise in your summaries so we can get to questions and answers as rapidly as we can within the hour and a half or so we have before votes are called on the Floor again.

First is Ms. Nina Sankovitch, Counsel, Natural Resources Defense Council, Incorporated; Mr. Pete Bontadelli, Administrator, State of California Office of Oil Spill Prevention; and Mr. Richard Lazes, President, Oil Stop, Incorporated.

Let me welcome you, and I appreciate your being with us today to help understand this complex issue. We will begin with Ms. Sankovitch and her testimony.

STATEMENTS OF NINA SANKOVITCH, COUNSEL, NATIONAL RESOURCES DEFENSE COUNCIL, INCORPORATED; PETE BONTADELLI, ADMINISTRATOR, STATE OF CALIFORNIA OFFICE OF OIL SPILL PREVENTION; AND RICHARD LAZES, PRESIDENT, OIL STOP, INCORPORATED

STATEMENT OF NINA SANKOVITCH

Ms. SANKOVITCH. Thank you.

Good afternoon, Mr. Chairman, and Members of the subcommittee. My name is Nina Sankovitch and I am a senior program attorney with the Natural Resources Defense Council. NRDC greatly appreciates this opportunity to offer testimony on the requirement of the Oil Pollution Act that oil carrying vessels carry spill-response equipment, and on the proposed rule issued by the Coast Guard last September to fulfill that requirement.

NRDC has worked on the issue of oil spills for over 20 years, and in December of 1992 we issued a report entitled "Safety at Bay,"

which reviewed the status of oil-spill prevention and response in the U.S. and the implementation of the Oil Pollution Act. I have with me summary of that report for any Members of the committee that would like to see them.

Historically, oil spill cleanup in the United States has not been very effective. A report completed by the Office of Technology Assessment in 1990 concluded that only 10 to 20 percent of oil spilled is typically recovered. For example, of the 11 million gallons spilled by the *Exxon Valdez* in Prince William Sound, less than 10 percent was recovered.

The oil that is left unrecovered following a spill is dispersed through the environment, polluting air and water resources, wildlife, sediments, and shorelines. One of the reasons for the low rate of recovery and the resulting environmental degradation has been the failure to promptly deploy spill containment equipment.

Time is of the essence in the deployment of the initial oil spill containment booms because oil rapidly spreads or sinks through water, moving out across the waves in slicks and spreading down through the water column. Once the spilled water mass starts to spread, it is difficult to pull back and contain within booms. Without sufficient containment of oil within booms, it is impossible to effectively remove the oil from the surface of the water through the use of skimming devices.

A review of large and small spills throughout country demonstrates that booms have not been promptly deployed following oil spills largely because the necessary equipment has not been available and ready to go as needed. To again use the *Exxon Valdez* spill as an example, following the spill, spill-response equipment that was listed in Alyeska's contingency plan as readily available was in fact scattered and in various states of repair and disrepair.

The Oil Pollution Act of 1990 sought to improve the rates of oil recovery following a spill in U.S. waters by requiring that vessels operating on navigable waters and carrying oil or hazardous substances in bulk must carry appropriate removal equipment. However, the rule that was issued by the Coast Guard in September of 1992 only requires that equipment capable of cleaning up to 12 barrels of oil from the deck be carried on board the vessel.

The Coast Guard does acknowledge in the preamble to the proposed rule that some vessels currently carry on water spill-response equipment and that others will choose to do so in the future to meet the vessel response planning requirements.

Nevertheless, and I quote the Coast Guard, "The Coast Guard does not believe that requiring all vessels to warehouse oil spill-response equipment is practical, economically feasible or always compatible with safe operation of the vessel."

The Coast Guard's proposed rule is based on the work of a negotiated rulemaking committee convened by the Coast Guard last January. The committee was convened to assist the agency in its duty under the Oil Pollution Act to develop regulations for vessel response plans and vessel carried spill-response equipment.

NRDC was the sole environmental representative on the negotiated rulemaking committee. Other members included 13 representatives of the shipping and oil industry, four representatives of the spill cleanup industry, one union representative, two representa-

tives from the regional citizens advisory council set up in Alaska under the Oil Pollution Act, and four States: California, Maryland, Wisconsin, and Louisiana.

The purpose of the committee was to develop consensus among the different interests represented on four specific issues raised by the Coast Guard: defining the term "adverse weather" for purposes of evaluating response equipment; second, defining the term "maximum extent practicable" for purposes of determining limits to the amount of equipment that a vessel owner or operator must contract for and the timeframes in which that equipment must be deployed; third, developing an evaluation system for spill response contractors; and finally, making a determination as to the amount and type of spill-response equipment to be carried by vessels.

We broke up into four working groups to discuss the four issues. I participated on the carriage of equipment working group to the extent I could, given I was one person trying to cover four issues. The Coast Guard representative to the equipment working group made it clear from the beginning that the Coast Guard did not consider the carriage of on-water spill-response equipment to be safe or feasible. The Coast Guard and members of the shipping industry argue that OPA's mandate could be met by requiring that equipment adequate to control and clean up on-deck spills be carried by vessels.

Although NRDC agreed that deployment of spill cleanup equipment by the crew on board tankers could endanger the safety of that crew, we argue that at the very least booms should be carried on board to be deployed by the first help that arrived to the vessel in the event of a spill, be it a vessel of opportunity, the Coast Guard, or a spill cleanup contractor.

In addition, we argue that fledgling technology existed to allow safe deployment of equipment by a crew and that such technology should be supported and improved to ensure its feasibility in adverse weather conditions.

Finally, we pointed out that the comments received on the initial advanced notice of proposed rulemaking included information about barges that do carry and employ their own oil containment equipment following a spill. At the very least, barges could be required to carry spill-response equipment.

No consensus, however, could be reached on the issue of vessel-carried boom skimmers and other on-water cleanup requirements by either the working group or the negotiated rulemaking committee as a whole.

The final agreement of the committee, the contents of which NRC supports, is limited to requiring certain types of on-deck cleanup equipment as well as options for a towing package and oil spill tracking devices.

The committee did not make a recommendation for or against the carriage of on-water cleanup equipment such as booms or skimmers. It was recognized by the committee and the Coast Guard that in fact certain vessels might choose to carry spill-response equipment.

NRDC continues to support the clear language of the Oil Pollution Act requiring that vessels carry equipment for responding to oil spills on water. At the very least, we recommend that booms

adequate to commence initial containment of an oil spill be warehoused on board all oil carrying vessels. This equipment provides assurance that the equipment necessary for the initial booming is ready and available for deployment as soon as help in any form arrives.

The warehousing of equipment that can be deployed by cleanup crews or passing vessels is especially useful for those vessels traveling to areas where rapid arrival of shore-based equipment will be difficult. Requiring carriage of on-water spill removal equipment will not necessitate its deployment by a vessel crew if such deployment is unsafe. Technology does exist, however, that appears to allow safe deployment from on-board crew.

It is not clear that currently such technology is operable under adverse weather conditions, but groundwork for a useful technology has been laid. Now, that technology must be fostered and improved through continued research and development.

Thank you for this opportunity to offer comments on OPA's requirement for vessel carrying equipment and on the Coast Guard's proposed rule.

[The statement of Ms. Sankovitch can be found at end of hearing]

Mr. TAUZIN. Thank you very much.

You notice how those lights go across. It is hard to stick by those, but we are going to ask you to try.

Mr. Bontadelli?

STATEMENT OF PETE BONTADELLI

Mr. BONTADELLI. Good afternoon. Thank you for inviting me to participate in today's hearing.

My name is Pete Bontadelli. I am the Administrator of the Office of Oil Spill Prevention and Response for the State of California. Our office has the coordinative responsibilities for the State for oil spill pollution, response, wildlife issues, since we are part of Fish and Game, as well as recommendations for deployment and use within California's territorial sea.

For many reasons, Federal regulations in the areas of oil-spill prevention and response are critical to State and local governments. Most regulating agencies agree there needs to be some degree of consistency or at the very least compatibility amongst various levels of government if we are to truly have successful planning and execution in emergency response situations.

Additionally, consistency or compatibility addresses concerns of the regulated community that they not wind up with extremely divergent issues from state to state or port to port. Aside from the consistency and compatibility level concern, however, we understand it is absolutely critical for those of us in States to be continually following the processes of the Federal Government and to comment on Federal rules. It was for that reason that we agreed to fully participate in the negotiated regulatory process, and to pay our own way to do so.

In the recent notice of proposed rulemaking the Coast Guard issued on vessel carriage equipment, they issued an assessment that cited jurisdiction in the area of vessel equipment. It noted in the Ray v. Atlantic Richfield case that the States are essentially

prohibited from requiring additional on-board carriage of equipment. So because of our desire for a degree of consistency or compatibility and because of the fact that this particular area has been preempted by the Federal Government, we felt it was extremely important to provide thorough comment on the Federal regulations.

During the regulated negotiated rulemaking process, as Nina has already indicated, we had four specific areas we reviewed. While did I not spend specific time on the carriage of equipment subcommittee, one of my staff members did. And I used extensively the notes from that subcommittee in reliance on my testimony for today.

It is important, however, to note and to understand that the objective of the committee was to put forward a package of regulations and proposed regulations which are in many ways extremely interrelated. For example, the lightering requirement which has the equipment noted in this package, the timeframes for delivery are in the vessel contingency planning regulations.

Speaking from a coastal states perspective, it is impossible for us to fully comment on the extent of interim final rules for vessel response plans if we do not know what the Coast Guard will ultimately be proposing for vessel equipment carriage requirements. For example, if the Coast Guard chooses to require only the emergency towing system recommended by the International Maritime Organization, we would be hard-pressed to accept the current shore-base response structure, particularly in light of the most recent disaster in the Shetland Islands, as being sufficient.

If the Coast Guard, however, chooses to require an emergency towing packing which has been an industry standard for 10 years on the West Coast, we feel more confident that shore-based response efforts can play an effective role in timely response.

Because California regulations will require the deployment during oil transfers and because we have had such close involvement with the area planning process, we would be generally satisfied with the interim current regulations for vessel carriage of equipment. However, we are only satisfied to the extent that the Coast Guard will actually move forward expeditiously with this set of regulations.

I will note that all of the States on the West Coast, in commenting jointly through the British Columbia, Western Coastal States Task Force, which includes Alaska, British Colombia, Washington, Oregon and California, we had four specific comments to this package. First, we all endorse the Prince Williams Sound towing package, as you have just heard me do.

Second, although it has been argued that having equipment on board a vessel to be deployed once a spill has entered the water is not feasible, a recent study commissioned by the Coast Guard indicates there may be other options.

The study, however, suggests that more research is needed in the area. We therefore suggest that the regulations be written in such a way as to leave room for future improvements in technology and bringing them on line.

We then further endorse the concept of having the OPA funds used for that research, and we strongly support the concept of having the data available for lightering directly to the vessel.

We feel that the regulations are dynamic and in fact can be modified. We note there is one section of the regs which addresses the issue of salvage equipment, and the National Academy of Sciences is currently in the process of conducting a review, and this area is most likely going to have to be revisited next year when that report is in.

We therefore would recommend we move forward with the proposals as they are today to get something on the books, and according to suggestions by the BC States task force, the regulations be written in a manner that would leave room for future improvements in technology. And with that type of a commitment, we think we have the possibility to move forward with new technology.

Thank you.

[The statement of Mr. Bontadelli can be found at end of hearing.]

Mr. TAUZIN. Thank you.

We will now hear from Mr. Lazes.

STATEMENT OF RICHARD LAZES

Mr. LAZES. Good afternoon. My name is Richard Lazes. I am President of Oil Stop, Incorporated. Our company develops oil pollution, control and containment equipment.

Rapid response is critical to the success of any oil spill response effort. This fact is understood by experts in the field, and has been proven time and time again on oil spills worldwide.

Congress recognized this fact and, as such, included Section 4202, part A in the OPA '90 regulations to carry on-board equipment.

A recent report conducted by Battelle Memorial Institute at the request of the Coast Guard reinforced this issue. Battelle ran hundreds of computer models on tanker accidents, groundings, as well as accidents with other tankers. The results of this study indicated that the first hour after a spill occurred is the most critical. During that first hour, 25 percent of the oil on average escaped from the leaky tanks, and 75 percent of the oil could have been contained, weather permitting, if booms had been deployed at that point.

Twelve hours after the spill occurs, the response time required in the proposed rule for high volume ports, 90 percent of the studied tankers had lost all of their oil. After 24 hours, the response time required in the proposed rule for other areas outside high volume ports, 100 percent of the tankers studied had lost all of the cargo in the damaged tankers.

Battelle concluded, "The results suggest that a pumping solution in conjunction with some form of containment has the most promise in the near-term."

There are several factors that make it important to contain oil immediately and in close proximity to the ship. First of all, the oil is much thicker at that point and the skimmers work more efficiently.

Secondly, as oil travels away from the tanker, the need for equipment increases exponentially. Emulsification of the oil with the

water happens rapidly as the oil becomes very thin, as it becomes spread by the forces first of gravity and then by the current and wind conditions.

The oily water mixture then becomes a slick and, when recovered by skimmers far from the tanker, contains much water, and it becomes very difficult to find vessels to put that oily water mixture into.

The tanker itself may be the largest and most convenient storage vessel to use to place that recovered oil.

During the Reg-Neg proceedings, a concern was raised regarding the potential safety hazards associated with putting men overboard to deploy booms and skimmers. The Coast Guard has issued a rule to require equipment on board for use on on-deck spills, not over-the-side spills. This proposed rule requires only scoops, mops and buckets.

This interpretation is in contrast to the intent of the legislators who drafted this landmark legislation and in conflict with the mandate of the public and the new administration which shares this committee's concern for safeguarding the environment. Nevertheless, the problems are important.

It is my view that the OPA legislation, the spirit was to create a climate that would encourage industry, hopefully American industry, to find technological solutions to the problems that were cost efficient. Our self-help system does exactly that. It involves an automatically inflating boom called an Auto Boom that rolls up on a reel for compact storage. It can be deployed with the aid of a remote-control vessel rapidly by one man from the deck of a tanker without going overboard.

And let me emphasize this is not equipment that we are the only ones that can make it available, and not necessarily new equipment. What is unique is the combination of the remote-control vessels which have been used for decades by the oil industry for sub-sea exploration and maintenance on pipelines in combination with a rapidly inflating boom, of which we are one of eight or 10 manufacturers that can provide it and have been providing it for years.

While developing this tanker self-help system, we have placed a special emphasis on costs, as we are acutely aware of the financial burden being placed on the shipping industry as a result of the OPA regulations. Admiral Henn in his testimony before this committee estimated the financial impact could exceed \$9 billion.

For less than 5 percent of that amount we can install self-help systems like the one I have described in every single tanker that traverses U.S. waters. For less than \$50,000 a year annually on a 10-year depreciation schedule, tankers could have this equipment, including the hardware, the remote control technology, the booms, the skimmers, the training and the maintenance to use this equipment.

In the end, the basic flaw in the OPA regulation as proposed is that they do not go far enough to provide tanker companies adequate incentive to respond rapidly to oil spills. The 12 and 24-hour response times permitted are wholly inadequate.

There must be an economic incentive to encourage rapid response to prevent environmental damage from oil spills. It is our hope that these hearings will generate a prompt and thorough

evaluation of this technology, and create a productive dialog that will result in practical and reasonable requirements for tanker owners to find equipment that can be used to prevent unnecessary damage to the environment resulting from oil spills.

Thank you for giving me this opportunity to testify. I will be happy to answer any questions you might have regarding our equipment.

[The statement of Mr. Lazes can be found at end of hearing.]

Mr. TAUZIN. Thank you.

Let me thank all of you for helping to keep the time for us.

Lest there be any suggestion we invited Oil Stop as the only contractor. I want to emphasize that in your testimony, you said there were eight or 10 other companies who can sell and deploy that type of technology to tankers?

Mr. LAZES. Yes. Rapid deployment boom is available. It is commonly called reelable booms. There are several American companies as well as the international companies that make booms that have this capability, and it is being used by major co-ops and spill contractors commonly all over the United States.

Mr. TAUZIN. The staff has collected for me a couple of documents. One of them is the World Catalogue of Oil Spill Response Products which lists a great many of these kinds of technologies and systems and companies that offer them. I take it these companies you refer to are listed in this volume, do you know?

Mr. LAZES. Yes, sir.

Mr. TAUZIN. And they have also collected this Oil Spill Intelligence Directory, which is also a directory of companies dealing in this area. You are not alone. There are many companies like you that deal in these varied kinds of technologies, and at least eight or 10 that deal in this-

Mr. LAZES. Reelable boom. There are at least eight or 10 companies that supply reelable boom.

Mr. TAUZIN. How about the remote control, are they made by only one company?

Mr. LAZES. No, there are several companies that make remote-control vessels. Application of using those vessels in conjunction with the reelable boom is something that is new but certainly not proprietary to Oil Stop. Remote control vessels have been shown to be absolutely reliable and safe, and are used commonly every day by the oil industry as well as other marine industries.

Mr. TAUZIN. Mr. Bontadelli, you have pointed out that you are happy that insofar as the conditions that would exist when tankers are discharging oil, such as transferring product, that there is going to be equipment available so that insofar as shore-side facilities, you are satisfied.

You make the point that at the very least we ought to keep the regs open. So, if in fact these technologies Mr. Lazes speaks about are available, they can be tested, priced, and examined for safety and efficiency on board these vessels.

Is that basically what you would recommend to the committee and to the Coast Guard?

Mr. BONTADELLI. Yes, it is. It is the recommendation not only of myself but of all the West Coast States, when we commented on the first round of vessel carriage of equipment.

I will also note that the negotiated regulatory committee recognized there were several potentials for improvements in technology and built in a five-year point mandatory visiting of the entire process. And one of the reasons several of us advocated that was to ensure that periodically we did revisit the new technologies that were being developed.

Mr. TAUZIN. Ms. Sankovitch and Mr. Bontadelli, comments have been made that you all agreed to these Reg-Negs. This is what you agreed to. Why didn't you press and get agreement for some requirement that at least booms, if not some sort of remote-control skimmers, would be required on these vessels?

They are saying, if the environmental community represented in the States who were concerned about shore-side damage are satisfied with this Reg-Neg rule which does not require on-board removal equipment, why should Members of Congress be concerned? Could you respond?

Ms. SANKOVITCH. I can start. We didn't agree as a committee on the issue of vessel-carried, on-water equipment. We couldn't reach an agreement. It was definitely a consensus that it shouldn't be carried.

It basically came down to one or two of us in the end who could not agree that vessel-carried, on-water equipment shouldn't be carried. The preamble to the proposed rule states that the committee did not recommend that equipment be carried. We did not make a recommendation for or against it. We didn't recommend that it not be carried.

Mr. TAUZIN. I see.

Mr. BONTADELLI. I will also note that the package as a whole contained many items we felt were appropriate and that in any committee gathering there are things will you not always be able to agree on in order to get other things.

From our perspective in California, the best thing we felt we could do for major portions of our coast line which do not have areas to pre-stage, and since we were not yet convinced there was all the technology needed to pre-deploy the oil off the vessel, was to get vessels off the coast by about 50 miles so we had time to address anything prior to having significant damage.

In that respect, one of the other portions of this set of regs dealing with lightering equipment has some very specific timeframes which provides very strong incentives for that.

Mr. TAUZIN. We will hear from the industry stating that is exactly what happened. There was a lot of give and take, and they may have agreed to some things that were not necessarily required of them. In this give and take, they agreed to these things that are going to cost them money, with the understanding that they were not going to have to put equipment on board their vessels. As a sort of a quid pro quo, if we suddenly now press the Coast Guard to require on-board removal equipment, that wouldn't be very fair to the negotiated agreement.

How do you handle that? What is your comments to that?

Mr. BONTADELLI. I very much appreciate the position, and at the time we put out the package almost a year ago now, I would say that that was correct. But I will note that we did at that point open a five-year review period which, based on that timeframe, would

have us within four years coming back to re-review advances in technology.

I would also note that was the basic position we took since the Battelle study came out between the time Reg-Neg committee and the time comments actually occurred on the regs.

Mr. TAUZIN. Ms. Sankovitch, would you respond?

Ms. SANKOVITCH. First I would like to say the final agreement speaks for itself about what was given up and what was taken in return. Insofar as what is fair and what is unfair, I think that there can be some give and take in terms of what are the equipment requirements that have to be contracted for, but we are not happy with the vessel response rules cap on equipment.

So we are not going to support that as NRDC until we see a raise in the level of the caps and equipment under the vessel response plan rules. This is what Pete Bontadelli explained, is that all of these are interconnected. If you agree to one thing, you have to understand the impact that is going to have on something else a agree to earlier.

Mr. TAUZIN. Finally, Mr. Lazes, in regard to the study that came out, I find the statistics in this study intriguing, that in the first hour a quarter of the oil comes out.

When we were examining the whole issue of hydrostatic balance as a method of containment, one of the options in constructing tankers to protect against oil spills. Oil seeking its weight will immediately come out of the vessels as rapidly as it can until it is in hydrostatic balance with the water that is displaced by the vessel itself. Obviously this study confirms that, most of the oil comes out in that first hour and is almost all of the oil is out in the first 24 hours.

The kind of equipment that your company and other companies have available today would deploy booms and skimmers and would be compatible with the structure of current tankers.

Owners and operators complain that with the kind of seas that tankers go through, that simply storing response equipment on deck wouldn't work, that it would be washed away or it would be difficult to maintain when you see the tremendous seas that wash over the decks of some of these tankers. Secondly, the operators contend that they may not have the space aboard the vessel or maybe not be practicable to bring volumes of oil and water, back aboard the vessel without endangering the vessel in some way. There is a very delicate problem when oil is coming out of a vessel of keeping the vessel stable in the water.

When you start loading on some more oil and water, you might in fact upset the stability of the vessel and therefore endanger not only the vessel but the crew.

Comment a little bit about that in terms of your equipment.

Mr. LAZES. First of all, the packaging of the system and its compatibility with the existing tanker equipment was carefully thought out when the system was built. The system is extremely compact. It takes up very little space on the tanker and can easily be protected from the elements.

To give you an idea, we can put a thousand feet of boom on a six-foot diameter reel that would take up almost no space on the deck of the tanker. The equipment can be installed in less than an hour

using the existing cranes, the hose-handling cranes and the cargo cranes that are on the tanker. It requires very little special training and very little maintenance.

We have had equipment on this that has been in the field for years with no maintenance and been completely operable. The ROVs need to be started intermittently with the same kind of maintenance schedules as the lifeboats. But these are certainly things that the crew from the tanker is capable of doing.

The other issue Battelle reviewed was the crewing standards, whether there were people capable of deploying such equipment. They concluded that the equipment, if it was available to be deployed, that even in the worst-case scenario, with the only exception of fire, that there would be crew available to deploy that equipment.

Mr. TAUZIN. Comment on the last point. What about bringing the oil and water back aboard the vessel when the vessel is already in an unstable condition?

Mr. LAZES. There are spaces on board the vessel including slop tanks and ballast tanks that are available to put oil into. It has to be considered how that oil is pumped into that system. It has to be loaded appropriately on the ship as a manifold system that can be used to transfer that oil and to put it into the appropriate tanks. Additionally, there are conventional floating bladders that can be used that are used commonly in most co-ops.

Mr. TAUZIN. These would not be onboard the vessel but floating on the water?

Mr. LAZES. That can be put in the water if there is a concern about that. Battelle looked at pumping and found it is realistic and can be done without damaging the stability of the tanker and use some of the slop and balance tanks as well to hold the water that is recovered.

Mr. TAUZIN. Thank you.

Mr. Coble?

Mr. COBLE. Thank you, Mr. Chairman.

Ms. Sankovitch, there are small operators of vessels in several parts of the country who would be unable to meet the Coast Guard's response time requirements because of excessive costs, unavailability of equipment, et cetera. And failure to do so may well result in their being shut down.

Do you have any sort of proposal that would address this quandary?

Ms. SANKOVITCH. When the advanced notice of proposed rule-making on vessel response plans and vessel carried equipment was sent out in 1992, comments were received from small operators who operate on the inland waters who actually said that they carry equipment on board now to be able to quickly contain spills.

So there is a possibility that they can meet the Coast Guard initial planning requirements by carrying equipment on board for those small operators.

If you are asking me whether compliance with the vessel response plan regulations will put them out of business and what should be done about that, the intent of the committee was to have the amount of oil that is carried directly correspond to the amount of equipment that you have to contract for. And if you have an oil

spill, it is only fair that you have to contract for the amount of equipment that would be necessary to clean up that oil spill. But the legislation is clear it has to be a worst-case spill, and we did factor in factors like dispersion, so the amount of the worst-case spill is less than it might have been.

But I believe that the vessel response time regulations are fair even for small entities. What is not fair is that the caps on equipment resulting in the VLCCs do not have to contract for equipment that would actually have to cleanup a worst case spill because the caps are set too low to ensure that that amount of equipment will actually be contracted for.

Mr. COBLE. Can a boom be deployed by individuals who are not trained in its use from any "passing vessel," as you suggest on page 7 of your testimony?

Ms. SANKOVITCH. No. There has to be some training. But as I say, I have read comments from numerous small operators who said that they have managed to, in emergency situations, to get the boom out in a manner that was effective. Perhaps it would have been more effective with trained personnel, but it is better to have some kind of response there than to have no response at all.

The most effective response is going to be if you have trained crews and if we have trained contractors that can be quickly on scene. But getting the contractors on scene quickly is sometimes a lot easier than getting their equipment there on scene quickly. If at least we can know the equipment is there and all we have to do is get the people there, we will have made a huge step.

Mr. COBLE. Well, that is why I included in my opening statement my concern about necessary equipment on board on the one hand and then perhaps violating safety practices on the other. It is a very delicate line, as you all, I am sure, can well imagine.

Ms. Sankovitch, the Chairman asked you this question, and perhaps it is my thick-headedness that I am not able to grasp your answer firmly, so let me try to plow this ground again.

Mr. TAUZIN. She should agree to that very quickly.

Mr. COBLE. Do you still support the two negotiated rulemakings that you signed?

Ms. SANKOVITCH. There was one final agreement that we signed, and I do support that final agreement, which was on the four issues, the definition of maximum extent practicable, the definition of adverse weather, how contractors should be evaluated, and equipment that must be carried on board. But we did not make an agreement as a full committee that we would recommend that equipment not be carried on board.

So part of the agreement was not that we all said, Right, equipment shouldn't be carried on board, we are throwing in the towel on that. What we agreed to was that on-deck equipment be carried and that the other issue would not be part of the final agreement. And the final agreement reads that way. Is that clear, or—

Mr. COBLE. Well, maybe. Let me play with that.

Mr. Bontadelli, I had a question for you but-hang on just a minute. If the equipment carriage requirements, Mr. Bontadelli, are unchanged, would you still support the negotiated rulemaking or response plans?

Mr. BONTADELLI. Yes, and I will make it very clear, and I will try to explain the same point you just raised. The agreement for all 26 of the parties signing was that as long as those items were in, we would support those elements of the rulemaking. However, there were several areas on which agreement was not reached, in which either the Coast Guard had at their discretion the ability to go further or to go differently than where we had recommended.

And it was always our understanding that each of the groups there was able to comment independently on those items that we had not reached agreement on. I will cite for example the caps as one place where we did not reach a specific agreement.

I would say the majority of the committee felt comfortable with the numbers the Coast Guard went with, but there were several people who dissented, some feeling it was too high, others too low, relative to the actual amount of equipment to be delivered in the timeframes.

What we agreed to in principle was that there needed to be timeframes and some form of cap that was defensible was probably acceptable. But we did not agree to an exact number.

Therefore the answer clearly is, I support moving the package forward which contains all the points after agreement, but that does not mean that is the absolute limit of what the regulations can ultimately be.

Mr. COBLE. Thank you.

Mr. LAZES, finally, to you, have containments, containment systems such as Oil Stop's ever undergone testing in adverse weather conditions?

Mr. LAZES. There are two answers to that question, sir. The containment systems themselves, the booms, the automatically inflating booms that contain the oil, have been tested in seas up to 10 feet. They have been tested under Coast Guard supervision. They have been tested in currents up to three knots. They have been found to be extremely reliable and stable.

The remote-control technology has not been tested under our supervision, but we have offered and continue to offer to make it available to the Coast Guard or to any other government agency that would like to conduct those tests, and we look forward to that testing program.

Mr. COBLE. Thank you.

Good to have you all with us.

Mr. TAUZIN. For the record, staff and I have located at least five companies. Slick Bar of Connecticut, American Boom and Barrier of Florida, Containment Systems in Florida, TCOM Booms of Maryland, and Ketchner Plastics of California, all of whom manufacture the reelable booms.

Mr. LAZES. Rollins also fabricates them, Expanding manufactures them, Vicoma is another one. There are at least eight or 10 that manufacture reelable booms, sir.

Mr. TAUZIN. Mr. Hochbrueckner for questions.

Mr. HOCHBRUECKNER. Thank you, Mr. Chairman.

I think this area of consensus with regard to the Reg-Neg committee concerning the requirement for containing equipment aboard tankers is interesting, but it seems to me it is sort of an exercise that probably shouldn't have happened, because when we

voted on OPA 1990, the whole idea was we wanted equipment aboard the ships.

So the issue of whether the committee decided it was the right thing to do or not, I think we, being a more objective body in essence, wanted equipment aboard the ships in the first place. What this committee should be doing is requiring that these equipments be placed aboard those ships.

So I think it is an interesting discussion, but from my perspective, I sort of regard it as amusing but not what we are all about.

Mr. TAUZIN. Would the gentleman yield?

I would love to agree with you. The Supreme Court, however, disagrees with both you and I on that score. The Supreme Court has ruled that while we have oversight over the agencies of government for whom we delegate authority, we do not have the authority to dictate the rulemaking, nor to veto it if we don't like it.

The Supreme Court case was decided in the last six or seven years. So, our only power at this point is either to change the law and to make it more explicit if we have not made it explicit enough. Our other option is to do what we are doing today, which is to explore and encourage the rulemakers to find out whether or not they are in fact carrying out the intent of Congress.

So, to answer the gentleman's question, I hope this is not just an effort at amusing anyone or anything else. We are trying to hopefully educate the Coast Guard to what congressional intent was, and to educate the Coast Guard on what technology is available and what the parties to this agreement really felt before they finalized the rules.

Once they make those rules, we have no authority to veto them or to change them. We can't dictate the rules. All we can do is change the law if we haven't made it clear enough to them.

I thank the gentleman for yielding.

Mr. HOCHBRUECKNER. I am certainly game to get on with the hearing, get educated on the subject, and then get on with the jawboning, and if that doesn't work, I think we ought to change the law, we should require these equipments to be placed on the ships.

Mr. TAUZIN. The gentleman would be perfectly within his rights to offer that kind of legislation. We would be more than willing to consider it if in fact we are not satisfied with this process.

Mr. HOCHBRUECKNER. Thank you, Mr. Chairman.

Mr. TAUZIN. Mr. Lancaster was actually here before Mr. Hochbrueckner. I made an error. Let me recognize him in order to make up for my mistake as quickly as I can.

Mr. Lancaster.

Mr. LANCASTER. Thank you, Mr. Chairman.

I agree with Mr. Hochbrueckner, Mr. Chairman, and I appreciate the testimony of these witnesses, because I believe that they support the position that we do, that it is both feasible and necessary that booms be available and readily deployable in the immediate hours after the spill in order to have the effect that we intended with this legislation when it was passed.

I think it is laughable that the Coast Guard would include in this rule only brooms, scoops and mops, in response to what was expected by this legislation on on-board recovery equipment.

I wonder if any of you on the panel can state whether or not this lack of feasibility determination of having on-board equipment is based more on the lack of reliable booms—I understand that in the past there have been some problems with deterioration of booms—or is it the safety factor of not wanting to put personnel overboard to deploy the booms? What was the basis on which that finding was made?

Because I think there is technology, as Mr. Lazes has already pointed out, to deploy the booms. I think there is significant advance being made in the booms with technology and fabrics and other areas that make those booms now completely reliable, completely deployable, and not subject to sticking together or deterioration as may have been the case in the past.

Mr. BONTADELLI. I will take the first shot at that, if I may, sir. I concur that there may in fact be several booms that are reliable that may be available. I am not yet convinced that we have a reliable means of safely deploying that boom at the current time.

In addition, I am still concerned relative to safety. We try to pump back onto the vessel until the damage stability calculations that we now require are in place and are actually reviewed at the time of an incident.

I will also note—

Mr. LANCASTER. If the gentleman will yield, if you don't contain that oil slick, though, with booms, whatever you do with it later is immaterial. So I would think that containing that oil slick with booms to be later pumped to some other vessel that doesn't have to be the vessel that has spilled the oil, is certainly a significant factor.

Just because you don't have the capability of pumping it back into the tanker itself, why shouldn't we at least try to contain it?

Mr. BONTADELLI. I agree that containment is critical, but in the State regulations we specifically note that containment shall occur as soon as possible and not later than the timeframes spelled out pursuant to the items in the negotiated process.

However, I will again reiterate that I am more than willing to look at what I believe the Battelle study indicated. There needs to be more research on the actual ability to deploy the boom.

I have no problem that you can carry booms on board and that some of that boom has in fact been proven feasible in fairly high sea states. I will stipulate to that. Much of it is currently used by co-ops and others.

The question in my mind still remains as to the feasibility of deploying it other than in relatively calm seas in semi-harbor-type situations. I remain open to the issue, and that is the reason that the Western States endorsed the concept of further regulation or research which kept the record open for advances in technology in this line.

In addition, as was noted earlier, the agreement did not preclude anything additional being required if it could be proven viable. That is one of the main reasons we have pushed for the minimum five-year review period.

Mr. TAUZIN. Will the gentleman yield?

Just to point out, Mr. Lazes has also made the point that inflatable bladders can be carried on the vessel and deployed in the water

in order to store the oil in it if, in fact, the stability of the vessel is an issue.

Mr. LAZES. The problem of where to store the oil is not at all related to the issue of whether to carry containment and removal equipment on board. It is an existing problem. In fact, the problem is greatly alleviated by containing the oil in close proximity to the ship.

Another issue that has been blown way out of proportion is the rate we are talking about pumping oil with these skimmers is at a rate which would be very easy to control and would not adversely affect the stability of that ship.

I think in fairness to the Reg-Neg committee and to the Coast Guard in arriving at the proposed rule they have on the table right now, it has to be considered, A, that the Battelle report was not available to them, and I think they should be commended in having had that report done. And I know that they are right now reviewing that report, and I am sure they will give it due contribution.

Furthermore, although the reelable booms were available, the deployment technology had not been fully tested at that time.

I go back to the fact that it seems to me that the spirit of this law was to get the industry to invest in technology. We have not asked the government to finance our development costs. All we have asked and all that we are asking now, we are somewhat frustrated in this process, is to evaluate it, to first sit down and work out a test protocol so we can go out and do field tests in high-sea conditions, in adverse weather conditions, and then we can conduct those tests so we can come to the conclusion whether or not this equipment is viable.

Mr. LANCASTER. Ms. Sankovitch, would you like to comment?

Ms. SANKOVITCH. I would just like to say that last May, after the negotiated rulemaking had ended in terms of the final agreement being reached, there was a conference jointly sponsored by the U.S. Coast Guard and the Canadian Coast Guard, a conference held in Canada to discuss the issue of tanker self-help measures. And I have been awaiting that report, the final report on that, and as soon as I receive that report, I will forward it to the committee.

There may be people here who can speak to what happened at that conference. I couldn't attend it.

The main objection to vessel-carried equipment that was raised during the working group, during the negotiated rulemaking committee, was safety of the crew. But I still believe that that is not a strong objection to the issue of warehouse boom on board, because I do believe it is easier to get people to the scene than it is to get the equipment to the scene.

Mr. LANCASTER. Was that in fact considered as an option and rejected, or was that simply not addressed?

Ms. SANKOVITCH. NRDC did raise that, and it was not accepted by the working group or the full committee.

Mr. BONTADELLI. My notes show the issue was raised by at least two or three of groups present doing the Reg-Neg but consensus was not reached. The rules of the committee were that only items where consensus was reached could be recommended. It did not prevent the Coast Guard from going further.

Mr. LANCASTER. Did the Coast Guard go further on any item or did they accept without modification what the committee developed?

Ms. SANKOVITCH. On vessel-carried equipment—

Mr. LANCASTER. As to all the issues.

Mr. BONTADELLI. They did go further in a couple of areas. They had to specifically choose the number for the caps, which was not agreed to by the committee. They did so, and that was debatable, with people on both sides of the ultimate number chosen. There were several other areas in the total package where the Coast Guard made independent findings.

One thing which has become a complicating factor for us, and that is the initial deployment of equipment for cleanup is controlled by OSHA standards, and in that process there must be people with a certain level of training to do the initial determination of sight safety prior to moving people in to do the contain many.

Therefore, in our State regulations we are specifically requiring that the ability to comply with OSHA compels that those readings be part of the first containment equipment arriving. We find you can get boom boats out to areas quicker than those with full skimming capability. So we isolated and separated the two based on the data now available to us.

Mr. LANCASTER. Mr. Chairman, let me just say and join my colleague, Mr. Hochbrueckner, that if the final rule is in the form that has been proposed, you will certainly join with him in legislatively mandating what we believed was the intent of this committee when the legislation was initially adopted.

Thank you.

Mr. TAUZIN. The Chair now recognizes Ms. Fowler, with apologies for going twice on this side.

Mrs. FOWLER. No problem, Mr. Chairman.

I am really here learning today. As a new Member, I appreciate hearing the witnesses and I am just going to try to listen and learn before we get to the point of voting on this. So I appreciate it very much.

Thank you.

Mr. TAUZIN. Thank you, ma'am.

Mr. Taylor is recognized for questions.

Mr. TAYLOR. Thank you for being here. Let me throw you a curve. From my knowledge of working on the Mississippi River, I have worked with the Coast Guard, I am going to start off by being a devil's advocate and tell you you are way off on your boom. Most spills are not going to occur in ideal conditions but in a bad fog, in a heavy storm. The reason you have a wreck in the first place is that something goes wrong, and that usually happens in bad weather.

With that in mind, did your panel give much thought to trying to prevent the accident rather than how do you address it, how do you close the barn door after the horse has gotten out? And specifically, did you give any thought at all to brushing up the double hull requirements of OPA 1990?

Ms. SANKOVITCH. Prevention measures are something that NRDC wholly supports and it is where we have put most of our work. But

this negotiated rule committee was really limited to only discussing the four issues raised by the Coast Guard.

Mr. TAYLOR. Get back to Mr. Tauzin's question, although I realize it is very expensive and we probably hear howls of protest from the towing industry, and justifiably so. The idea of the bladder, did you give much thought to that?

Mr. BONTADELLI. Much of the information I will frankly tell you that I give you today came after the committee, I did not have it available to me at that time. There appear to be significant questions that you have ability to hook up the bladder and push stuff back into it.

There are a lot of deployment issues I am still not comfortable with. I am more than prepared to continue to look at that. Our preliminary reading of the study indicated there were options available. However, additional research was warranted.

And I will again go back to the position that was taken by the Western States, that we think you need to move forward with what we know we can accomplish today, which was basically what was in the regulations, the things that are required-scuppers some of them were required. The extent and the amount were raised to different barrel levels pursuant to the regulations.

The Coast Guard went with existing regulations on combing, which were stronger than those initially recommended by the committee. That is one example of an area where they went above the committee's recommendation.

Mr. TAYLOR. What about the existing regs?

Mr. BONTADELLI. I believe the barrel numbers are lower.

Mr. TAYLOR. You want the barrel numbers rather than hide above the deck?

Mr. BONTADELLI. Correct. To have that kind of equipment capability is what we went with. Our data shows that about 81 percent of the spills occur during transfer with that type of equipment is most useful. That is the reason the State regulations, if we can get the Federal requirement for carriage in place, will require the actual deployment of that type of equipment during key transfers.

Just having it on board the vessel, you don't have the personnel and so forth to deploy, it doesn't do you much good.

Mr. TAYLOR. But they are using the combings, they are plugging the scuppers, they have drip pans now. So what would you do above and beyond the existing law?

Mr. BONTADELLI. I will note that the largest single spill in California in the last two years was from an operation where none of those items happened to be appropriately in place and deployed and where lack of communication between the bunkering vessel in this case and the freighter were there, and you had a major spill. That is one of the reasons we are looking at a wheel variety.

What he was trying to get across is you have a package here. It is not just carriage of equipment in isolation. It is not just vessel response plans in isolation. There are a wide variety of issues that are part of the overall implementation and have an overall cost.

Mr. TAYLOR. Did you bother to break down the types of spills that we have had, say, in the past few years, and how many instances were existing regulations or laws ignored or broken? From

what you tell me, the biggest spill occurred because someone wasn't living by the present laws.

Mr. BONTADELLI. Correct.

Mr. TAYLOR. Does this happen more often than not?

Mr. BONTADELLI. Preliminary information indicates that. I don't believe the case has been settled.

Mr. TAYLOR. But your group didn't take the time to see how often whether or not a majority of the spills are occurring because the present law isn't being adhered to, did you?

Mr. BONTADELLI. We worked out standards which everyone in the committee could agree to to raise the level of what was currently required for on-board or on deck cleanup. That was the specific area we did have agreement in.

Mr. TAYLOR. Was any thought given by this group of the Coast Guard owning bladders-since the Coast Guard helo is already carrying trash pumps, I would think it would be just as easy to throw a pump that is capable of pumping oil on board, and since bladders were used extensively during Desert Shield/Desert Storm, we obviously got pretty good at deploying those.

Did you all ever bring that subject up rather than requiring the consumer to purchase these things? If it is in the public's best interest to have them, maybe the public ought to pay for them.

Mr. BONTADELLI. The committee was operating under the constraints of OPA 1990, which says public funding may not be used. So the public equipment was additive to anything that would be available. And with that constraint, we basically did not consider any of the Federal equipment that would be available either from Navy super-cell or the Coast Guard through the strike teams.

Mr. TAYLOR. Who do you think of the idea?

Mr. BONTADELLI. I believe that other parts of OPA 1990, specifically the area planning process that required the identification of not only Federal but State and local response equipment that may be available, and having that information available for full integration is necessary if we are going to have an adequate response capability in U.S. waters.

What basically I understood of the intent of OPA 1990, the section on vessel and facility contingency carriage regs, is to determine if that piece is appropriate to place on the industry itself as opposed to the Federal Government.

I will also note in our comments in this area, we believe it is appropriate to utilize the authorization provided by Congress for research and development funds to move into this area, do the review, do whatever certification is necessary of new and advancing technologies. And as I noted earlier, I think if the regulations are written with specific timeframes or specific ability to take that information once it has been proven and require it, you have an overall solid package.

Ms. SANKOVITCH. Mr. Taylor, if I could add, the important issue during the initial hours following a spill is containing that spill. I think discussing what to do with that oil, where to put it, is a red herring in terms of the first few hours, because we do have the 12-hour requirement that skimming and storage equipment get out there.

As long as you can meet that first step of containing the oil and then meet the first tier requirement of getting your skimming equipment out there in 12 hours, we won't have such a problem. So the issue of where to store the oil I really this is not as important as the issue of containing that oil. And the way to do that is to require a boom on board.

Mr. TAYLOR. Ms. Sankovitch, again, I am sure you are working in the public's best interests. The point I am trying to make is that in the vast majority of accidents, the circumstances where they occur and the timing where they occur is going to make the use of a boom foolish.

I can assure you, I was out riding on a Coast Guard search and rescue boat when a front went through on Friday. A boom in six-foot seas is not going to work. On the Mississippi River, nine months out of the year you have got a current. The boom is not going to work.

The fact that they are carrying this boom in the stern of a tow boat is not going to change anything. That is what I am trying to tell you. Did you look at some other options other than that?

Ms. SANKOVITCH. Although there are a number of spills that occur in adverse weather conditions, and typical wave and current-just typical conditions do make boom usage less effective than it is in absolutely ideal conditions, there are a number of spills, large spills, that do occur in waters where a boom could make a big difference, and it is definitely worthwhile to have the boom available under those circumstances.

The committee didn't consider a lot of alternatives. For one thing, we were constrained by resources, time, and the context of what we were supposed to discuss. We weren't really allowed to move out of the four issues that we were supposed to discuss.

Mr. TAYLOR. Thank you, Mr. Chairman.

Mr. LAZES. Mr. Taylor, could I just respond to a couple of questions you raised?

One interesting question you raised as far as what is available is an important question. What makes this section of the proposed rule completely ineffective as well as not in compliance with the legislation is that it is completely redundant. After requiring the scoops, mops, buckets and shovels, it says, and I quote, "Tankers already are in substantial requirements with the proposed requirements for on board equipment, and as such, it will have no mitigating effect on oil spills."

Two other issues you raise that are interesting. There is no question that mechanical containment equipment does have physical limitations. But if we take that as a given and draw the conclusion therefore they shouldn't be used, why would we require massive amounts of equipment to be stored land based as we do now?

The fact is, the equipment works as effectively wherever it is being used limited by those weather conditions, but it will work better if it is in close proximity to the tanker where the oil is thicker, and before it has a chance to spread out of control.

A third point you made regarding these barges, it is not our intent here to suggest that the inland operators that operate the barges, the American fleet of barges, would have to have expensive and complex, sophisticated remote-control technology. That is not

necessary. In fact, the barge owners are the only segment of the industry that have gone out and innovated themselves.

We have talked to several of them in the last few days. Some of the members of AWO have innovated themselves, and they carried booms and found clever ways to deploy them for very small amounts of money, \$4,000 and \$5,000. They are now using these booms on many barges. Most of the barges in Canada already do. They have found good ways to deploy this. They do it effectively, on a daily basis, and they do it in concert with the Coast Guard.

They told us it was not the environmental concerns that was the only thing driving them to do that; it was good business. And as they put it to me, they said, When we have a spill and it gets out of control, we lose the customer. So that is why we are doing it. And so they have already gone beyond the boat rules.

Mr. TAYLOR. But I think you have made my point for me, and that is, I think they are going to do—they know right now that they face as a result of OPA 1990 unlimited liability. So what you want to do is on top of unlimited liability, get a bunch of government bureaucrats, most of whom never worked in the oil business, and they are going to draw the plan on how they have to solve their problem. And I think that is crazy.

We have already got unlimited liability. So let them solve their own problems. Why mandate it?

Mr. LAZES. In fact, the concept of unlimited liability, which I don't know—I am certainly not a proponent of and I am not even sure that is what is in the legislation. I think Ms. Sankovitch will respond to that issue much more accurately than I can.

But the issue of unlimited liability is absolutely not a deterrent at all. In fact, it puts it on the insurance companies and the P&I club. That is not an incentive to prevent the pollution.

Mr. TAYLOR. Sir, I don't think you work in the private sector. These people have to go out and buy insurance. If they don't have a good safety record, either the price of insurance is going to be through the sky or it is not going to be available. So I am going to disagree.

Unlimited liability has raised their eyebrows about up to here. And they are taking precautions. What I don't want to see is an overkill on the part of Congress or the Coast Guard where they start requiring things that make absolutely no sense. And what I would like to see is that those people who have a vested interest in making this work, i.e. the operators, make it work themselves.

Mr. LAZES. I heartily agree. I think that the economic impact is critical to this issue.

This country depends and consumes more than half its oil needs. And we have to find a safe way to transport that oil. But on balance, if we look at a program that presently looks to cost the industry \$9 billion, is that money being properly spent, when for a small fraction of that, less than 5 percent, we can use the only real mechanical equipment that we know has the track record to function properly, albeit it is limited, but until we find a better technology, it is all we have, and it is what is being used by Coast Guard and the co-ops and the NSRC and the contractors. Why not invest some those funds and have that equipment in close proximity to the accident?

When we have fire systems in hotels-it took years to put those systems in place. The fire department was certainly adequate but it wasn't there fast enough. That is why we passed laws and regulations that required sprinklers in public buildings. This is the same situation.

Ms. SANKOVITCH. Mr. Taylor, P&I coverage in vessels doesn't include review of the safety record of that vessel. And the Oil Pollution Act is not an unlimited liability statute. There are environmental groups who lobbied for an unlimited liability statute and who lobbied for joint cargo and vessel owner liability. We didn't win on that.

Mr. TAYLOR. I would disagree with you. We had a hearing on this last year, and I will gladly supply to you the testimony of the operators who say that they do have it. We asked them point blank, Is there a magic number that you would like to see? So far as they are concerned, there is. As far as this committee there is.

Ms. SANKOVITCH. As far as the statute is concerned, it is only if you violate an applicable regulation that while you are having that oil spill, or what led to that oil spill, your liability is unlimited. Otherwise, it is a limited liability statute. There are caps set on the liability.

Mr. TAYLOR. Thank you, Mr. Tauzin.

Mr. TAUZIN. Thank you, Mr. Taylor.

Let me thank you all for your testimony.

Mr. Stupak came back. I am sorry.

Mr. STUPAK. I am sorry, Mr. Chairman.

Prior to the Oil Pollution Act of 1990, were there more rules or regulations on the ships for oil containment than for spill cleanup? Or was it their own self-help remedy, whatever it might be?

Ms. SANKOVITCH. You mean the scuppers-as far as I know there was no requirement, but that those vessels did carry those by routine.

Mr. BONTADELLI. There are some requirements in combing and some of those things and drip pans which are reiterated here, but not to the extent and specificity you now find here or the level you find in the set of regs.

Mr. STUPAK. Since releasing the report, "Safety at Bay," has the Coast Guard been in contact with you and this group or anything?

Ms. SANKOVITCH. We have-I did receive a response from the Coast Guard on that report, and I have an ongoing relationship with certain people in the Coast Guard. We are trying-the rulemaking that we are most anxious to see is interim measures for single hulled vessels. We need all the help of everybody to try to push the Coast Guard to get that rulemaking out, and we haven't seen any progress on that issue at all.

Mr. STUPAK. Thank you.

Mr. LAZES. Could I comment on that one point you made?

I would like to make it clear that in our development of new technology, we have been encouraged, supported by Coast Guard, there have been continual communications, they have kept the door open, and have been open to new technological developments. And I think that they have acted very properly in that regard.

Mr. STUPAK. Thank you.

Mr. TAUZIN. Thank you, Mr. Stupak.

Let me thank witnesses again. Your testimony has been very valuable.

We will call our next panel up, which will consist of Mr. John Joeckel, Manager, Fleet Operations, Ashland Oil. He was a member of the Reg-Neg group and can contribute from the industry's viewpoint on this issue. He will be accompanied by Captain Dick Halluska, Assistant Vice President, OMI Corporation, and representing the American Institute of Merchant Shipping and Transportation Institute. Mr. Howard B. Hile, who is Vice President, Operations Contingency Management, and Environmental Officer of Maritrans, representing the AWO. Captain David Wood, who is Director, Health, Safety and Environmental Protection, Marine Transport Lines, representing Intertanko. And Bruce Smedley, Principal Environmental Engineer for Monenco-Agra Earth and Environment International, Limited, representing the API.

Mr. Joeckel, I believe you will testify on behalf of this group. The other members will be here for questions as may be required to respond.

Mr. Joeckel?

STATEMENTS OF JOHN JOECKEL, MANAGER, FLEET OPERATIONS, ASHLAND OIL; CAPTAIN DICK HALLUSKA, ASSISTANT VICE PRESIDENT FOR OPERATIONS, OMI CORPORATION; HOWARD B. HILE, VICE PRESIDENT, OPERATIONS CONTINGENCY MANAGEMENT AND ENVIRONMENTAL OFFICER, MARITRANS, G.P., INCORPORATED; CAPTAIN DAVE WOOD, DIRECTOR, HEALTH, SAFETY AND ENVIRONMENTAL PROTECTION, MARINE TRANSPORT LINES, INCORPORATED; BRUCE SMEDLEY, PRINCIPAL ENVIRONMENTAL ENGINEER, MONENCO-AGRA EARTH AND ENVIRONMENT INTERNATIONAL, LIMITED

STATEMENT OF JOHN JOECKEL

Mr. JOECKEL. Thank you.

I am John Joeckel, Manager, Fleet Operations, Ashland Petroleum Company. I am a licensed ship officer and I have sailed with tankers. I am representing the American Petroleum Institute, but speaking on behalf of the five organizations here today.

On this panel we also have representatives from the American Institute of Merchant Shipping, the American Waterways Operators, the Transportation Institute, and the International Association of Independent Tanker Owners. These organizations who are present here represent the vast majority of vessels who are subject to the Oil Pollution Act of 1990.

We are also joined today by Monenco-Agra and Environmental International, Limited, which while not a member of our coalition of vessel owners and operators, brings to the table a special expertise on the matters before us today.

Mr. JOECKEL. With your indulgence, Mr. Chairman, I would like to have the panel members introduce themselves to the committee.

Mr. SMEDLEY. Good afternoon, Mr. Chairman, Members of the committee, my name is Bruce Smedley. I am from Calgary, Alberta. I am a chemical engineer, and I hold a masters degree in environmental sciences. I have been working in the field for some 15

years on various aspects of oil spill pollution and recovery, primarily chemical dispersants and that kind of aspect and also different aspects of technology; and I am also the author of the paper that was referred to earlier at the Toronto conference between the Canadian Coast Guard and the U.S. Coast Guard. I am also a member and a past president of the Arctic section of SNAME.

Mr. HILE. Good afternoon, Mr. Chairman, I am Howard Hile, Vice President Operations-Contingency Management and Environmental Officer for Maritrans. We are a large coast wise tug and barge petroleum transporter. We moved approximately 200 million barrels in the coast wise trade last year. I have been in the business about 22 years. I also was a member of the Reg-Neg Committee representing the American Waterways Operators.

Mr. TAUZIN. Glad to have you, Mr. Hile.

Mr. HALLUSKA. Good afternoon, Mr. Chairman. I want to thank you for my being here. I am Richard Halluska from OMI CORP. I am Assistant Vice President for Quality Management, Safety and Environmental Affairs. I am a licensed ships master. I have 20 years experience in the business, 13 years at sea. I have sailed in Prince William Sound and in coastwise and in international trades.

Presently, OMI CORP is the second largest independent bulk shipping company in the United States. We have 43 vessels, mostly tankers, of both U.S. and foreign flagged tonnage. I am here representing AIMS and TI.

Mr. TAUZIN. Thank you, Mr. Halluska. Nice to have you here, sir.

Mr. WOODS. Good afternoon, Mr. Chairman and committee Members. I am David Wood. I am Director of Health Safety and Environmental Protection for Marine Transport Lines, which is a company in the states that operates several different types of vessels, a lot of tankers. But I am here representing Intertanko, which is comprised of over 300 members that operate approximately 1900 tankers; and we import, carry, approximately 60 percent of the oil into this country.

Thank you very much for inviting us.

Mr. TAUZIN. Welcome, Captain.

Mr. Joeckel.

Mr. JOECKEL. Thank you, Mr. Chairman.

As has been stated, Section 4202(a)(6) of OPA 90 requires vessels that are operating on the navigable waters of the United States and that are carrying oil or hazardous substance in bulk as cargo to "carry appropriate removal equipment that employs the best technology economically feasible and that is compatible with the safe operation of the vessel."

The negotiated rulemaking conducted by the Coast Guard in 1992 focused, in part, on the issue of discharge removal equipment for vessels carrying oil. The notice of proposed rulemaking issued by the Coast Guard on September 29, 1992, largely reflected the Reg-Neg Committee's final agreement on the subject of discharge removal equipment.

We believe that the Reg-Neg process was very effective in establishing sound, practical standards for the carriage of discharge removal equipment aboard vessels. Our objective here today is to

clarify what the committee considered during the Reg-Neg process and explain why the committee came to the agreement that it did.

Contrary to prior testimony, I believe the Reg-Neg Committee did come to unanimous consensus on this issue.

As you know, under OPA 90, vessel owners and operators must plan to respond, to the maximum extent practical, their worst case oil spill and to a substantial threat of such a spill. Because the statutory requirements for vessels to carry appropriate discharge removal equipment and to have oil spill response plans are so substantially related, the Reg-Neg Committee considered both requirements concurrently. The committee considered the relative utility of vessel-carried and shore-based equipment in responding quickly and effectively to a worst-case spill. The committee agreed that vessel owners who could meet on-scene planning for containment and removal of spilled oils should not be required to carry on-water response equipment such as booms and skimmers. These resources would be pre-staged on shore and utilized by shore-based oil spill response professionals with the necessary response training and expertise. Those officials would bring to the site of the incident the proper equipment to respond to the specific needs of that incident.

It was also recognized by the Reg-Neg Committee that vessel crews are not trained spill responders and that the crews' primary responsibilities are to the safety of life, the vessel, and its cargo. The committee agreed that the use of shipboard-carried response equipment during a spill event should remain within the scope of a crew member's traditional duties as a mariner.

While the Reg-Neg Committee did not recommend that on-water containment and recovery equipment be carried aboard the vessel, the committee did agree that other types of vessel-carried equipment would be consistent with the requirements of OPA and could have value in the event of a spill.

First, the committee recommended that vessels carry equipment capable of containing and removing a spill from the deck of a vessel.

Second, the committee also recommended that certain vessels install deck-edge coamings to contain deck spills.

Third, the committee recommended that certain vessels carry suitable hoses and reducers for internal transfer of cargo.

Fourth, the committee recommended that tank vessels have pre-arranged, prompt access to on-board or shore-based damage stability and residual structural strength calculation programs. This recommendation was based on the understanding that damage stability information was, perhaps, the most critical information a vessel's crew could have in developing an effective response when a hull failure, grounding, or stranding occurs, especially in the early hours.

The committee also saw the need for equipment other than resources for on-deck spill containment and removal to be carried on board. For example, the committee agreed that it would be desirable for vessels to carry a simple spill tracking device which would facilitate location of the leading edge of an oil spill by a first response vessel. It was the committee's recommendation that no later than three years after the date of the final rule, tank vessels be required to carry such a device if it is proven reliable.

More importantly, much more importantly, the committee recommended two options for requiring certain size vessels to install expensive emergency towing packages based on IMO resolution 535(13). That resolution recommends strong points, chafing chains, and fair leads at the bow and stern of a vessel. That is to keep the vessel off the rocks so you don't have a spill in the first place.

Both the spill tracking device and the emergency towing packages are examples of types of equipment which, when deployed by the crew, would be consistent with the traditional responsibilities of a mariner. This is not the case with on-water containment and removal equipment.

At Reg-Neg, there were suggestions for a variety of types of equipment to be warehoused on board the vessel. The committee carefully considered and rejected requirements for the vessel's crew to be deployed off the vessel or to use the equipment for on-water containment and recovery. Personnel involved in accidents must contend with crew safety, ship safety, and ship stability as first priorities, thereby limiting the available manpower and equipment to dedicate toward spill mitigation. It was the position of the Coast Guard and all other members of the committee that the crew's primary responsibilities are to the safety of the vessel and containment of the cargo, especially containment of the cargo within the vessel. Sending crew members over the side of the vessel would jeopardize their safety and the safety of the vessel and its remaining cargo.

Spill events occur in a wide range of environmental conditions. These conditions include severe temperatures, wind, visibility, precipitation, heavy seas, ice, heavy current, among other factors. Any warehoused equipment would have to be effective in all of these conditions, all of these conditions. It must also be reliable, require minimum maintenance, and be effective in a variety of spill locations with a variety of oils and with differing spill rates. No situation is the same. Meeting these requirements with shore-based equipment can be difficult. Doing so with vessel-carried equipment is a near impossibility.

Some companies have presented technology which purportedly allows for the deployment of booms from a vessel through use of automatically inflating booms and remote control devices. Systems such as these may help ease deployment of boom from a tanker, and industry supports conducting research into the safety and feasibility of these systems. However, research to date indicates these systems do not work effectively. In fact, two reputable studies have recently been performed on tanker self-help spill recovery systems.

One study was prepared by Monenco Consultants Limited in December 1991 for the Transportation Development Center of Transport Canada. Mr. Bruce Smedley was the principal author of this study which examined 24 major oil spills worldwide.

The other study, which was prepared by Battelle Northwest Laboratory for the United States Coast Guard, examined 45 self-help response techniques and equipment types to assess their effectiveness. Automatic and manually deployed containment boom systems were among the equipment examined.

Both reports concluded that such systems could be effectively and safely deployed only in calm weather and with the assistance

of small vessels support for maneuvering and placement of the boom.

Mr. Smedley is prepared to answer any technical questions the members of this subcommittee may have on the evaluation of self-help systems.

Regardless of how a boom is deployed, it will lie alongside and against the vessel hull without assistance from work boats to hold it away at a proper distance. Boom lying against the hull would contain virtually no oil. Even properly deployed boom can limit a tanker's and a salvage vessel's ability to maneuver due to the threat of fouling in the propeller, even to the point where a life boat launch may not be able to escape from the stricken vessel if need be.

In addition, deployment of boom in some cases could encapsulate the oil and vapors around the vessel, posing hazards to crew health and increasing the risk of fire and explosion. If you had a gasoline leak, it could pose a substantial hazard.

Warehousing of boom for use of shoreside responders was also examined by the Reg-Neg Committee but was considered inadvisable since responders will bring equipment which their personnel are trained to use to the scene. Shore-based responders present at Reg-Neg expressed their desire to use their own equipment which would be better suited to the particular type of oil spilled and which they considered more reliable than on-board equipment, the condition and level of maintenance of which are totally unknown.

Boom is only one part of the entire response equation. The Reg-Neg Committee understood that boom alone cannot indefinitely contain an oil spill. Other parts of the response system must be present. Workboats must be on scene to maneuver and hold boom at proper distance from the vessels; skimmers must be available to recover contained oil before it escapes; temporary storage barges are required to hold the recovered oil; and an entire array of lightering resources, including pumps, fenders, and hoses must be readily accessible.

First and foremost, there must be sufficient trained response personnel on scene to manage the entire system safely and effectively. Vessels simply cannot carry on board sufficient resources including both equipment and trained personnel to satisfy a system approach. These capabilities can only be provided by pre-staged resources ashore. The Reg-Neg Committee understood this and agreed to focus on ensuring the availability of sufficient shore-based response resources to mount a safe and an effective on-water response.

In conclusion, it is important to remember that, consistent with requirements of Section 4202(a)(6) of OPA 90, the Reg-Neg Committee did recommend that certain types of response equipment be carried aboard tank vessels. We believe the equipment required in the Coast Guard's proposed rule represents the best technology economically feasible that is compatible with the safe operation of the vessel. We will continue to work with the Coast Guard to produce a practical and workable set of regulations consistent with the legislative intent of OPA 90.

We believe this objective was achieved in the Coast Guard's proposed rule on discharge removal equipment for vessels carrying oil.

We respectfully request, Mr. Chairman, that your committee join us in support of the proposed rule.

Thank you, Mr. Chairman. We appreciate this opportunity to testify, and we would be please to answer any questions you may have to any member of the panel.

Thank you very much.

[The statement of Mr. Joeckel can be found at end of hearing.]

Mr. TAUZIN. Thank you, Mr. Joeckel.

Mr. Joeckel, the vessels you deal with, are they required to have firefighting equipment on board?

Mr. JOECKEL. Yes, sir, they are.

Mr. TAUZIN. Is it the most optimal of firefighting equipment? Or do fire boats do a better job of putting out a fire on a vessel?

Mr. JOECKEL. Well, sir, with all due respect, I had a tanker explode on me in Bay City, Michigan, back in September 1990. One crewman was lost, the vessel was a constructive total loss; the fire burned for a total of 24 hours.

The first explosion completely damaged the on-board equipment of the vessel. The crew had to abandon vessel. They could not fight the fire because the system was destroyed. We had to depend on shore-based response. We had to call up Williams, Boots and Constitutes from Texas to fly them up there and in a C-130.

They came up there. We had a unified command structure with a regulatory agency. We decided to put that equipment and those resources based from shore. It was shore-based response resources that put out the fire.

Mr. TAUZIN. And I suspect that shore-based facilities will often be much more capable at doing that than the on-board equipment required on a tanker.

But the point I make is that you, nevertheless, are required to have it there because in some cases it is all you have got, and you use it to save lives and to prevent further damage to the vessel.

The question is: Why would you not be able to use whatever booms or whatever equipment might be required on board that vessel for those cases where the on-shore equipment is not available?

It is going to come too late or that-for some reason or another you are so far away that the only thing you have is what you brought.

As someone else pointed out earlier, if trained manpower can be flown out to the vessel, if you have the equipment there to be used, why wouldn't that be an extra-an important added measure of safety for containment of oil and removal of oil, if possible, when shore-side facilities are not available as in the case where they are not available to help put out a fire on a vessel?

Mr. JOECKEL. Yes, sir. Again, I believe as our testimony has pointed out that we believe boom deployment from the vessel, even self deployment of the boom around the vessel, is impractical and ineffective.

Mr. TAUZIN. Even with a remote control vessel, an ROV?

Mr. JOECKEL. Yes, with an ROV, because we are not looking, itself, at the deployment.

Mr. TAUZIN. Have you tested that? The one thing that concerns this committee is that this Reg-Neg Committee met some year ago,

made its recommendations, and technologies have been developing and they continue to be developed all the time; but the one thing that concerns this committee is whether or not those systems have ever been tested.

Have you tested out a real deployment of boom and assisted with an ROV under different weather conditions? Has that been tested anywhere?

Perhaps Mr. Smedley can answer that.

Mr. SMEDLEY. There have been programs worldwide to test booms for many years now. And their effectiveness, I think, is quite well documented.

With regard to your question of ROVs, I am not aware that ROVs have been tested specifically for this application. The question seems to be the use of ROVs and how that adds to or makes these systems more effective.

Mr. TAUZIN. Well, let me make my question precise. The assumption is—I am taking your words, Mr. Joeckel, that deployment of boom is not very effective except in calm waters and when there is some vessel available to keep the boom away from the tanker and deploy it properly.

The suggestion, by an earlier witness, Mr. Lazes, was that ROVs can do that and they can do it from, this remote controlled system.

What I am asking is: Has that ever been tested? Have you ever tested it? Do you know of any tests?

Mr. SMEDLEY. No. In fact, I am not aware of anyone that has tested ROVs. What I do know is the effectiveness of boom is very much more complex than that. And it depends a lot on whether or not you have the right type of boom for the chemical that you have on board at that particular time. And I was talking about light hydrocarbons or heavy hydrocarbons. It depends a lot on the length of the boom that you have; it depends on a lot of the sea state, weather conditions.

Mr. TAUZIN. Given all those variances, if you have got a tanker that carries a certain range of cargo, could not the regs require it to have on board a reliable boom suitable for the cargo it carried?

Mr. SMEDLEY. Yes, you could. But, again, it goes back to using it as a complete system. You can have a piece of equipment, and we can put equipment on boats, but we have to operate it as a system and be safely able to deploy it and safely insure that it is reliable and that it is usable at the time you need it; and that is the point. Booms cannot be done in the open sea doing that.

Mr. TAUZIN. I am going to hear exactly the summary on the report and quote from the executive summary of the Canadian report. "The tanker self-help systems appear to warrant serious consideration since, in the majority of instances, the tanker crew might possibly be in a position to devote certain attention toward mitigation and are controlling a spill, assuming the priority of the ship's safety may not be an issue."

In effect, the statement says that self-help systems might, indeed, be worth considering.

Mr. SMEDLEY. I agree 100 percent, self-help systems are very worthwhile. But boom is only one—

Mr. TAUZIN. You don't consider booms and those kind of systems as effective self-help systems?

Mr. SMEDLEY. Booms are only one of a dozen self-help systems. We should talk about dispersants; we should talk about bioremediation; we should talk about absorbents; we should talk about all kinds of other systems that are both internal and external to the ship, including contingency plans.

Mr. TAUZIN. Would you suggest that ships carry all of those types of things?

Mr. SMEDLEY. No. In fact, our study excluded all those things. And we came down to the conclusion that on-board tanker, internal systems were the most favorable existing practical technology.

Mr. TAUZIN. Say again.

Mr. SMEDLEY. On-board systems were the most suitable practical technology.

Mr. TAUZIN. What on-board systems?

Mr. SMEDLEY. Internal transfer, lightering capability, and contingency planning and developments that would help the crew deal with the accident at the time it occurred.

Mr. TAUZIN. When I look at your testimony, Mr. Joeckel, what I see that you agreed to was systems for removing and containing a spill on the deck, coamings on the deck edges to keep the oil on the deck so it doesn't spill out, systems for tracking the spill as it leaves the boat, and as you point out a very expensive towing package, that you can be used to tow a ship out of danger, but nothing in here that has anything to do with stopping oil from leaving the boat or taking it back on the boat.

Are you saying, Mr. Joeckel, that there are no technologies available for you to do that, none at all in this whole world?

Mr. JOECKEL. Again, sir, we looked at it two ways, the effectiveness and the safety. The effectiveness of boom by itself, whether it is deployed by whatever mechanism is ineffective for any great time period. It can be easily overwhelmed. And then the oil continues to spread with no benefit from the boom.

We look at the safety aspects, the encapsulation of a vessel with vapors, the safety aspects of crew members deploying that boom, the other duties of the crew members during those first critical hours, the gauging of the tanks, the damage stability to find out what the extent of the damage is; these are very critical hours that they have to be doing this kind of work. They cannot be deploying boom that is going to be ineffective.

Mr. TAUZIN. You know, I am reminded just a little bit of what must have been the arguments when there was a hearing to require boats to carry life boats. I can hear the arguments, those are expensive items, rough seas, they are not going to save anybody anyhow, they are going to sink, it is going to take a lot of time to deploy them, you have got to maintain them and you have to make sure the engines are working, you have to test them now and then, and we are not going to sink very many ships anyhow, so why have life boats on them?

Mr. JOECKEL. Well, to get back to your first question in regards to the firefighting systems, you get to the life boats. Both of those pieces of equipment are for the safety of the crew. That is why those systems are placed on board the vessel.

Mr. TAUZIN. But we are talking about the safety of the environment here. And I recognize that while the life of the crew is cer-

tainly paramount, everyone-Ms. Sankovitch, who testified earlier, said that wasn't even an issue. If a vessel were mandated by the new regs to carry equipment on board and the safety of the crew did not permit that equipment to be deployed, everyone agreed the safety of the crew ought to come first. But we are talking about the safety of the environment; and we are talking about a study that indicates that in the first hour the environment is going to be severely damaged. In many cases, in the first four or five hours most of the oil will get out.

And we are talking about situations where every once in a while-not every time, not every circumstance-but every once in a while there will be calm seas. And every once in a while in those first few hours something might be done to contain and pick up some oil.

And my question, again, to you is there no system in the world that would allow you to do that?

Any one of you.

Mr. HALLUSKA. I would like to speak to the issue of safety for a minute. And I think-

Mr. TAUZIN. Before you speak to the issue of safety, would someone answer my question first.

Mr. HALLUSKA. To our knowledge, the answer is, no, presently there is not a system capable of doing that.

Mr. TAUZIN. There is no system in the world capable of containing and picking up oil around a vessel that a vessel could carry?

Mr. HALLUSKA. That is correct.

Mr. SMEDLEY. You can-

Mr. TAUZIN. Mr. Hile, do you want to go first?

Mr. HILE. Mr. Chairman, I think one of the key questions here is you could carry something on a vessel. Whether it can be safely used and whether, in some cases, it can be safely carried in a place on the vessel where it can be safely used and so forth is a much more complex question than just, can it be carried. I don't mean to be taking your question very narrowly; but if you are asking, basically, is there no system that can be carried, if you are really speaking of the system, you have to have ways of deploying it, ways of maintaining it, and so forth. It is more than just carrying boom. That is, I think, where we are differing.

Mr. TAUZIN. Mr. Smedley, then I want to ask you a follow-up question. Mr. Smedley.

Mr. SMEDLEY. The way I look to address that particular question is that-and I am familiar with the Battelle study that talks about the spill time response plan.

Typically they talk about a quarter or a third of the tank that is emptied in less than a half hour, something like 20 minutes through the various models. That oil happens-that spillage happens primarily due to the hydrostatic head. But it-

Mr. TAUZIN. We talked about that earlier. Yes.

Mr. SMEDLEY. Very quickly. In that period of time, in that half hour period of time, there is very little that the crew has done to determine their particular predicament, their damage assessment, and such, like that.

So the second period of time is really after the half hour, after the hydrostatic head is leveled and the oil is spreading. Now we are talking up to 15 hours, something like that.

The immediate requirement of the crew, then, is to determine their particular situation, do their damage assessment, determine their ship stability and its integrity primarily to see that it is not breaking up, and to do any oil transfer they can.

Now, if you follow that logic, what it tends to say to me is that it is much more valuable for the crew to be spending their immediate time in the remaining hours to insure that no more oil is spread on the water rather than going in the water or operate some kind of system to be collecting oil that has already gone.

So, in other words, we think that anything that can be done to prevent a barrel of oil going in the water is 100 percent effective. Once it is in the water, the best we can hope for is a 10 percent effective ability to pick it up.

So, again, utilizing the crew as part of the system here, we would like to think that anything that they can do to prevent it happening in that period of time is much more valuable.

Mr. TAUZIN. Nobody argues that. I don't think anybody questions the fact that the crew has got to worry about the stability of the vessel and to make sure the vessel doesn't sink, that it transfers all that it can away from the vessel, that it should do everything it can in order to adjust the valves and hoses in every possible way to stop another barrel from getting out.

But are you saying-again, my question is: Is there no system that a large tanker could carry that could help in picking up oil that is already out, contain it around the vessel, and pick it up, that could safely be carried aboard a large tanker?

You point out in the executive summary that a small number of incidents relative to the total number of marine oil spill incidents create a very high percentage of the total oil that is spilled. And you point out that, as a result, you may want to focus initially on vessel size.

Is that a subject for this committee to look at? Could it possibly be that systems could be deployed on the larger vessels which have the largest incidence, the biggest spills that could somehow mitigate or contain the level of those spills?

Mr. SMEDLEY. In fact, our study did specifically address that. We looked at, essentially, eight data bases worldwide. We put together a very comprehensive listing of all oil spills over the last 15 years. We got the information from England and Australia and America and Canada.

Out of that analysis, we determined, essentially, that 95 percent of the total spilled quantity of oil happened on-at volumes of 5000 tons or more, and it accounted for about 40 percent of the accidents. So we can concentrate on vessel size as a way in which to grasp 95 percent of the spilled oil.

Mr. TAUZIN. Let me yield to the other members. I just want to conclude by telling you that I am still a little concerned that the question I keep asking is whether or not systems are available, technologically possible, that could be carried and safely deployed by crews in certain circumstances to recover or mitigate or contain spills around a vessel, and the answer I keep getting is, no. I also

keep hearing that you really didn't test systems out; you don't know whether ROVs could properly deploy boom and that they could be effective under certain circumstances in calm weather with a limited crew component requirement.

I still have not heard from anyone if these systems have been properly tested. And that continues to disturb me.

Anyone want to respond yet before I turn it over?

Mr. WOODS. In the incidence of a lot of the other things that were mentioned, bioremediation, in situ burning, dispersant use, this country has very severe penalties against people who, even under test conditions, do this. I think everybody knows that.

Mr. TAUZIN. We are keenly aware of that.

Mr. WOODS. The Norwegians, for example, have programs that do allow for testing and so forth.

In the case of Mr. Lazes, I may be incorrect, Mr. Chairman, but I don't believe he has, at this point, a fully operational prototype. I think he just uses something in the demonstration I saw. So I think-in that specific case, I don't think the testing has been done, even if you just-if you ask us the question, which you did, has all the testing been done, no. But if we buy it today, it is not going to drive the testing for the future anyway. And I don't think any of us here at this table have seen tough testing of equipment out there to say that it is feasibly, economically, and best technology and all that.

Mr. TAUZIN. That seems to be correct. And that seems to continue to be a sticking point, is that we have a lot of technology, the components of which are out there; and yet they haven't been tested together to see whether or not a system can be worked. And it seems to me that maybe that is an area the committee can discuss with the Coast Guard at our next hearing.

Let me yield to my friend and colleague, Mr. Coble, for questions.

Mr. COBLE. Thank you, Mr. Chairman.

Mr. Joeckel, gentlemen, I am going to try not to be repetitious; but the nature of this argument may invite some repetition.

Mr. Joeckel, regarding the safety problems with on-board equipment expressed by the Coast Guard and the Negotiated Rulemaking Committee, I would like your comments as to whether or not it is your belief that the problem is related to over-the-side operations; is the problem related to priorities of the crew, other factors, or all of the above?

Mr. JOECKEL. I would say all of the above plus more.

Again, we get into the over-the-side deployment of crew, which is dangerous. We get into taking the crew away from their primary priorities, which is dangerous because if you don't address the other needed aspects to insure the safety of the vessel to find out what the extent of the damage is, you could have even a worse spill.

We are concerned about the effectiveness of systems, again just putting a boom alongside of a vessel whether it is deployed by an ROV or another vessel, the effectiveness of the boom is just not effective. Oil will escape unless you have a system approach to contain the oil, remove the oil, store the oil, and have experts doing this in a hazardous environment so you don't blow up the ship.

Mr. COBLE. Mr. Lazes in his statement indicated that-and I presume this was cost involved in equipping vessels with his gear and equipment. He indicated that the anticipated average annual cost per vessel will amount to under \$50,000 based on a ten-year amortization schedule.

As the Chairman pointed out earlier, gentlemen, we are concerned about cleaning up the environment. But I also recognize, as do you all, that the fiddler is going to have to be paid as well.

Now, in meeting this requirement to clean up the environment, do you all think that the industry, as a whole, can live with this sort of cost, that is the \$50,000 to equip the vessel with Mr. Lazes' and/or other companies' equipment in addition to the ongoing costs of operation?

I would like anybody's comment on that.

Mr. HILE. I would like to reply to that. If I took Mr. Lazes's number correctly, he said \$50,000 per year based on a ten-year depreciation, which I took to be the cost over ten years of approximately half a million dollars per vessel. Our company operates approximately 40 vessels. To install systems like that would run somewhere in the order of magnitude of one to two million dollars, which is more profit than our company made last year. That is that one system, and that is one small part of what is employing on in the overall OPA and other response plan requirements.

We have a document in the record with our estimate of the total cost to the vessel response plan requirements over the 10- to 15-year period, which is on a discounted back basis, approximately \$2 billion. And it is considerably in excess of many of the other estimates. It is a real burden, and I can name several other similar cost items that have been incurred not only as a part of this part of the regulation but OPA 90 in general.

If you took our company as an example, double hull requirements by themselves will require the early phasing out of almost all of our fleet. And in the case of our company that is a half billion dollar expense, one company. So the costs here are considerable, and these are not small numbers we are speaking about. It is easy to speak of a 5 percent number or less than 5 percent, but if the number you are starting with is \$9 billion, it is a lot of money.

Mr. COBLE. Thank you, Mr. Hile.

My point, of course, is going to be, I don't want to turn a blind eye to the necessity of keeping the environment clean; but, by the same token, I don't want you guys to have to go out of business in doing it.

Captain Halluska, is it possible or-strike that. I guess, arguably, anything is possible. Is it probable that these remotely deployed booming systems could present hazards to vessel or crew? That is a very general question, I will admit; but at least I made it probable rather than possible.

Mr. HALLUSKA. I think the answer is clearly, yes. It is probable that you will increase the risk of fire and explosion by encapsulating the vessel, you will prohibit evacuation or restrict that.

Mr. COBLE. Captain, start again. I didn't hear your first response.

Mr. HALLUSKA. Basically the answer is, yes, it will increase the risk. By encapsulating the vessel with oil, you are bringing hazardous substances close to the crew members on board.

I think Mr. Bontadelli made a very important remark in his statements, before they require anything in terms of cleanup to be done, the personnel, there has to be a site assessment and has to be consistent with other guidelines so that the vessel personnel or the people that will be involved are adequately protected. By corralling the oil around the ship, you are going to increase the risk. If that is going to be done, it should be done in concert with considering a possible evacuation.

So I believe my professional opinion is that it will increase the risk.

Mr. COBLE. Thank you, Captain.

One final question to Mr. Smedley. Let me direct this to you, again a general question, but I think an important question. What, in your opinion, would be the most important actions a master and his crew could take to protect the safety of the vessel and its cargo, say, in the first two hours after a spill?

Mr. SMEDLEY. Well, one of the big lags that we see in the technology is the ability to assess the damage of the ship adequately. We see that there needs to be work done on damage assessment. And the problem is that the damage generally occurs at the bottom of the ship and could span quite a few of the tanks and could be very extensive.

Without knowing that damage assessment, it is very difficult for the captain of the ship to make decisions appropriately to not only save the ship but to make decisions such as driving the ship further up on the rocks, to actually seal the hole, so we see that as a very definite technical fix right now.

Mr. COBLE. Thank, gentlemen.

Thank you, Mr. Chairman.

Mr. TAUZIN. Thank you, Mr. Coble.

Mr. Lancaster.

Mr. LANCASTER. Thank you, Mr. Chairman. In listening to your response to these questions, it appears to me that though much of the response is couched in terms of crew safety and impracticality of systems and that sort of thing, that the bottom line is the bottom line, that cost is the real driver here, not these other factors. And so let's talk a little bit about cost.

First of all, I would assume that insurance against oil spills is a very, very high type of insurance to have.

First of all, if you could, just give us some idea of what the insurance cost is for the different size tankers.

Secondly, since insurance is completely driven by risk, if you reduce the risk of this oil incurring the kind of environmental damage that some have caused, I assume that insurance premium would go down.

Is there, in fact, insurance now available that gives you a lower premium because of whatever kinds of risk reduction you have put in place, whether it is on-board recovery systems or training or whatever?

Mr. JOECKEL. I would like to respond to the first part of the question.

And, Howard, if you have got any information on that, on the insurance side, you can talk about it.

Congressman, I am very, very concerned when you imply that the real issue here is cost on this issue. I must emphatically disagree. Our approach in Reg-Neg and our approach in business is the safety of the lives of our crew members and the protection of the public health and welfare. Cost is the last thing we consider. And during this whole Reg-Neg process, yes, we continued to bring up cost to the negotiation process, but it was always after safety, safety, safety.

Mr. LANCASTER. OK. Let's go ahead and respond to that, if I might follow up, before we get to the insurance questions.

If we remove the safety problems, what is an acceptable cost that can be incurred because several responses have said we just can't afford that; it would put us out of business; we don't make that kind of profit. So, obviously, cost is a factor. So let's say that we have put these other considerations behind us and they are no longer factors. Then what is an acceptable level of cost in terms of on-board equipment that you could live with?

Mr. JOECKEL. Again, the-if we, hypothetically, remove the major issues and get to the cost issue, I must again emphasize OPA 90 is such an immense regulation you just cannot be looking at little pieces of the puzzle. We have to look at the whole regulation. There is an immense cost structure as a whole legislative initiative to our business. When we negotiated in the Reg-Neg process, we looked at all the ongoing negotiations and all the issues we were looking-and, yes, we looked at cost on the overall cost; but you can't look at just a little piece here and a little piece here. All those pieces of the puzzle all add up to the big cost.

Mr. LANCASTER. Are you prepared to respond to some of the insurance-

Mr. HILE. I will attempt to do so. I don't have that at my fingertips, the relative cost of insurance for different sizes of vessels.

Mr. LANCASTER. Could you provide that for the record if you don't have it?

Mr. HILE. Yes, sir, I will.

Mr. HILE. There is a relationship between risk and insurance cost, but there is also a considerable relationship between insurance rates and performance and safety records. And I can give you an example of our own company where our insurance costs have been much more related to our improved performance and our safety record as contrasted with the risks-although the risk clearly in terms of liability are going up very greatly.

A lot of the things that we are doing do relate to that. And I have to apologize to Mr.-to you, sir, if I gave you the impression that the bottom line was the relation. The issue in terms of cost is survival, not profit. And in terms-as Mr. Joeckel said, one small piece is very difficult to consider when we have all these pieces together. It is hard to give you a precise answer because you have got all the pieces of OPA 90. And nobody, to my knowledge, and to our knowledge, has yet determined the overall cost of OPA 90. There have been regulatory impact analyses of different pieces of it but no attempt to put it altogether to our knowledge.

Mr. LANCASTER. All right. But I guess one of the major parts of that question, with regard to insurance and risk, is whether or not insurance is now offered which would give you-which would take

into account the risk reduction from on-board recovery systems or on-board containment systems because that, I assume, is a driving force in setting that premium, is whether or not you are going to whether or not that company is going to have to pay for a spill.

And I know, because air bags on automobiles reduce your insurance rate, that is an on-board safety system, I would think that an on-board safety system that would help you contain an oil spill would also reduce your rate.

Is that something insurance companies now take into account; and if so, on what basis?

Mr. HILE. My answer is, not to my knowledge. I am not an expert in that field but not to my knowledge. I know some of the factors that are included, and that is not one of them. But I will provide information for the record on that issue.

Mr. HALLUSKA. If I can follow up on that, that would be the way we would prefer to see the insurance presented, but at this point there is no credit for taking enhanced measures. The reduction that you are able to achieve in premiums is solely based on record. And in that instance, any preventative measures that we do are sound business practice. And, as a company, we have achieved some reductions based on our performance but not based on the fact that we have double hulled vessels or that we carry any additional equipment. We do that because it makes sense, and prevention is always our first and primary modus operandi. We are not-we would like to see that scheme in place, and we would like to see credits given for other enhancements that we take that go beyond the requirements of the law. But to our-

Mr. LANCASTER. But I assume that some of you folks are pretty big and that you do, in fact, negotiate your rates with the companies and don't just call up your friendly insurance agent and say, what can I get this policy for.

Have any of you attempted to negotiate with an insurance company a reduced premium based on additional efforts that you would make to avoid spills?

Mr. HALLUSKA. Absolutely. Absolutely we do that. But at the present time, the market is not in place to acknowledge that. It is purely risk-based.

In other words, the insurance companies recover losses by the future premiums. So if you can go in and show that your record warrants a reduction, you can get it. And that is an indication of the prevention aspects that you are able to bring into play. And I think that is one thing that we haven't talked enough about here, although it is on everybody's mind. It is better for us to prevent an incident from occurring than to have to deal with a response. And I think that there are many things that we haven't been able to say that would indicate that we are fully in support of prevention.

I think we are new to this type of discussion and sometimes can get placed in a corner of looking like we don't support environmental concerns. We absolutely do.

Mr. LANCASTER. Is the reason that insurance companies do not offer this as a basis on which to set rates that simply nobody has taken the measures that certainly are encouraged and anticipated by this committee as being a part of OPA 90?

Is it just that nobody has any on-board capability and, therefore, there is no reason to talk to insurance companies about it because nobody has it?

Mr. HALLUSKA. No, that is not true. It has to do with the risk, and the risk is established over a period of time, based on historical averages. I mean, that is how the insurance works, on actuarial tables.

Mr. LANCASTER. How did insurance companies establish the first reduction in premium for air bags before there was ever any experience there?

Mr. HALLUSKA. It is a different type of insurance. But I can't answer that question.

Mr. JOECKEL. If I may follow up, the type of example, inland river tank barges—we have had inland river tank barges double hulled for quite a number of years now. I operate both single skin and double hulled barges. There is no insurance incentive for me one way or the other whether I have a double hull or single skin.

Again, as Captain Halluska is saying, it is, basically, risk driven. We do not have the ability to reduce our premiums to any substantial degree other than with our prior incident record.

Mr. LANCASTER. Thank you, gentlemen.

Mr. TAUZIN. Thank you, Mr. Lancaster.

Mr. HOCHBRUECKNER.

Mr. HOCHBRUECKNER. Thank you, Mr. Chairman.

Gentlemen, I think we all agree we all have vested interests, but we all have a common goal. Clearly we want to avoid spills. In my case, representing the eastern half of Long Island, with some of the world's most beautiful beaches, I don't want to see any oil spilled. Obviously, you don't want to cause one. And certainly, from your industry's point of view, you want to avoid spills. You want to see to your crew's safety. You want to avoid any liabilities associated with the oil spill. So we have a common goal.

I think the issue that we are really talking about here today is striking appropriate balances. And that is really what it is all about.

Now, a couple questions for you. Has your industry done any studies about the probability of the occurrence of a major oil spill. Have there been any studies that, say, you know, one out of every 10,000 deliveries of 2,000 miles in duration we can expect a major oil spill under those conditions? Is there any projection that your industry does? Everyone else does it. The nuclear industry says we will only have one plant blow up every 3,000 years or something.

So are there any studies, and what is the probability that your industry feels a major oil spill might occur?

Mr. SMEDLEY. The basis that we have done our work is on the statistics of the last 15 years and all the oil spills that have occurred.

Mr. HOCHBRUECKNER. I will settle for that. That is fine.

Mr. SMEDLEY. There is quite a knowledgeable statistic basis on which to work.

Mr. HOCHBRUECKNER. What would you say the answer is over the period that you have studied? How often do you have a major oil spill versus in the 15 years?

Mr. SMEDLEY. Once a year.

Mr. HOCHBRUECKNER. Once a year. OK. What does a modern tanker cost today to build and to outfit?

Mr. HALLUSKA. It depends on the size, but let's take a Suez max, a million barrel tanker is about \$65 million to build double hull.

Mr. HOCHBRUECKNER. OK. So a million gallon-

Mr. HALLUSKA. A million barrels. That is 42 million gallons.

Mr. HOCHBRUECKNER. A million barrel tanker, \$65 million. And, obviously, you amortize that over a bunch of years and all that. So \$65 million is a fairly significant amount of money versus a \$50,000-a-year program amortized over ten years.

Let me just say this, coming from an engineering background, I have really been amazed today at how closed minded the industry appears to be on the subject. I mean, you are telling us that no system exist that can do the job. We agree, when you talk about booms, there is no question if there is an oil spill, no one is saying put booms out there and in three weeks we will come and pick up the oil and the booms will be useless. We agree they are useless. And depending on weather conditions and circumstances they can be useless rather quickly. We understand that. We accept that.

But there often are conditions where there is a spill where, in fact, the booms could make the difference if you could deploy them. And no one is saying that the ship-the crew should let the ship sink because they are busy putting out booms. I mean, clearly the safety of the people, the safety of the ship is the paramount concern. But once that is handled and dispatched, then it is time to say, well, what can we do to minimize the loss of oil until, in fact, we can get the appropriate equipment here to do the job?

Now, the fact of the matter is there are systems today, there are systems, we will introduce you to the people who, in fact, will be happy to demonstrate them for you; and I am talking about systems that deploy the booms, in fact keep them out there, systems that have pumps available that can draw up the oil in water, separate them, in fact put the oil into bladders over the side. I mean, this is available.

So I am concerned, as I say, about really the attitude, and the attitude you have displayed here today as an industry, assuming that you properly represent the industry, is that it can't be done, it won't work. I mean, that is not the American "can-do" attitude that has made this country great. We want to see-you know, this "no can do," "it won't work" attitude just doesn't fit. This is America. We make things work. We are doers. And I am absolutely convinced that you folks have the capability of, in fact, finding these systems that we will be happy to show you are out there and test some of them, prove them wrong. You have got people saying we have got the equipment, we can do it, it will save spills; they are going to happen.

I mean, you cannot legislate against stupidity. We are going to have problems whether through stupidity or through accident or through natural causes, whatever; they are going to happen and, by your own admission, a major spill a year.

Now, what can we do to reduce the environmental impact that comes from this major spill that we can anticipate a year?

In fact, there may be more because of the amount of oil we are moving around. What can we do to minimize them? All we are

saying to you is, look, you are closed minded on the subject; you have demonstrated that very clearly today. We are saying you ought to be looking at these areas. And if you are not going to look at them because it makes sense from protecting your own people, your own ships, your own money, your own insurance premiums, if you are not going to look at them from that point of view because it is right for you to do, then we are going to make you do it because we feel that you need to be more open minded and you need to review these systems.

And if they don't really work, if it can't be done, then come back and prove it to us. But don't tell us there are no systems and it won't work up front before you even try. I think that is the thing that bothers me the most today is that you are not apparently willing to try. Let's get some of these systems put them on a ship. I am sure we can come up with some deals here where people will be happy to put equipment on your ships and give you the opportunity to prove that they won't work.

And if you can just take one major failure, you know, one major oil spill a year and prevent that because we, in fact, imposed upon you the equipment that you must carry and things you must do, I think it is worth it. And I am willing to vote to make you do that.

In any case, you can respond if you wish; but I know this is more of a statement. But I just feel very strongly about this. My engineering gut tells me you can do it, and we ought to do it. And it is in the best interests of our Nation and the best interests of your industry to do it.

Mr. HALLUSKA. I think you are absolutely right to have those feelings. If we have created that impression in you, then we are at fault for doing that. We support what you are saying, and we are not closed minded to initiatives, to technology.

And I think that Mr. Joeckel can give an example of what MSRC is doing in terms of the budget that they have devoted to research and development. So if we have created the impression that we are closed minded, you are entirely right to feel that way.

Mr. TAUZIN. Captain, we have about ten minutes to complete the hearing. If each of the remaining questions use up five, we can do it.

Let me go to Mr. Taylor.

Mr. HOCHBRUECKNER. Thank you, Mr. Chairman.

Mr. TAYLOR. I want to open it up to the panel, those of you who have been a captain on a vessel, have you ever had a serious injury on board during your years?

Wouldn't it have been nice if you had a surgeon on board to take care of that injury and maybe even nice if you had a helicopter on board to fly the guy back to the hospital rather than waiting for the helicopter to come to you?

Mr. HALLUSKA. Yes. We have had cases of heart attacks where that-

Mr. TAYLOR. The point I am making is, sure, I mean if money was not-we are talking about life here; we are talking about the life of your crew members. We don't require you to carry a helicopter, although in an offshore supply boat, 50 miles out to sea, it is a lot quicker to have that helicopter on board than to wait for someone, run one out, pick up your person, and go back to the hospital;

you have saved half the time. We don't require you to have a surgeon on board.

My point to Mr. Hochbrueckner and the advocates of this system is that, number one, by the Coast Guard's own admission, at very slow speeds, I mean one knot probably, max, maybe higher, booms don't work anymore. In high sea states, booms don't work anymore.

Now, yes, there are going to be some circumstances where a boom will work. But the third thing you are missing is, at some point, you are going to saturate what is in the boom, which means you have either got to have the marine spill boat on scene. And they are spending a fortune for these marine spill recovery vessels. I think there is 16 of them being built right now or at least a dozen. So it is not like the industry isn't doing anything.

All I am saying is, before this committee and before the regulators, whoever they may be on this, go hog wild and require every one of these guys to have the equivalent of the helicopter, to have the equivalent of the surgeon, let's see if a first aid kit won't work because, in reality, the only time a boom is going to work is if it is very calm in a relatively small spill. And the rest of the time you are kidding yourself.

Mr. HOCHBRUECKNER. Will the gentleman yield?

Mr. TAYLOR. Sure.

Mr. HOCHBRUECKNER. We have all agreed that booms won't work as stand-alone items because of conditions, time saturation. But we are talking here about a system. You deploy the boom. It contains the oil close to the ship. You then deploy a pump and start drawing the oil and water out to separate it and put it in bladders.

So we agree, booms by themselves will not work. But as the gentlemen themselves agreed earlier, we are talking about a system, and you have been—you are on record saying there is no system today that will do that. There are systems today, and we will be happy to introduce you to people who have the systems.

So I agree with my colleague that they wouldn't work by themselves, and we certainly don't want to require helicopters and surgeons. We are talking about striking reasonable balances between protecting ships and oil spills and the environment and the accommodation of strike the right balance with cost and risk.

Mr. TAYLOR. I am going to take my time back, Mr. Hochbrueckner.

Gentlemen, the remaining Members of this committee, if it is the will of the committee to mandate something like this, I would strongly encourage that this committee writes the language, the requirement, and the type of vessel, the size of vessel that will be required to handle it, as I can assure you if you leave it up to the bureaucrats, every two-man tow boat that is 300 horsepower is going to have to have \$500,000 worth of equipment that in all probability will go down in a collision.

Thank you.

Mr. TAUZIN. Thank you.

Mr. Stupak? You have got about four or five minutes.

Mr. STUPAK. All right. I will be quick.

What do you recommend if you you have a spill?

Mr. JOECKEL. We recommend exactly what the Reg-Neg committee came up with, sir. We feel this is the best compilation of regulations and response resources that complement each other. The equipment that we are putting on board the vessel complements the capabilities of the crew. We feel this whole package fits together so nicely that we are going to get the biggest bang for our buck with what we are doing.

We feel by pre-staging a shore, having previous responders ashore, but spending half a billion dollars for MSRC alone, to respond with skimming equipment capable of doing the job by professional responders, we have the crew capability, the towing package to keep the vessel off the rocks in the first place to prevent the spill, we feel we have done a darn good job in meeting the intent of OPA and coming up with practical, safe regulations.

Mr. STUPAK. What would a crew do while waiting for this on-shore stuff to get to where they are? What would they do to contain a spill?

Mr. JOECKEL. I will let the vessel Captain answer.

Mr. HALLUSKA. The first thing, the impression is that nothing is happening within the first several hours, and I think that that may be a misconception. There is a lot of oil on the vessel that remains at risk. And the internal transfer of that oil, if that is appropriate, should take place immediately, as soon as the assessment of the damage is carried out.

So the immediate-the first thing is the vessel-you check for your crew, obviously. And that may take 10 or 15 minutes to account for everybody. If we have a complicating factor, such as fire or explosion, then the oil spill is going to be the last thing you think of.

So if we go through these considerations, look at the safety of the crew first, account for them, then you start looking at the safety of the vessel, and as that is taking place, you are using the resources on the vessel, and the Reg-Neg committee recommended they be beefed up, that the internal transfer capability is effective, not only with the primary system, but so that you have back-up systems that give you a redundancy, so that if your piping is damaged, you still have a way to transfer the cargo internally to minimize the balance of the cargo flowing out.

But the period of time is so short in a major incident that that initial oil, unfortunately, is going to escape.

Mr. STUPAK. And in that period of time, then, there is nothing, from what you are saying, that the crew does to contain it from leaking from the ship?

Mr. HALLUSKA. No, there are many things you can do. For example, you can gravitate, which means without the use of the pump, using the natural gravity of the oil itself, transfer it into a slack tank, if that is available. That has to be done with due consideration of the structural integrity of the vessel.

It is possible to put severe lists and trim on a vessel. So the study of the problem has to take place while the other actions are happening at the same time.

One of the things we recommended, and it was accepted, that we have contracted with organizations like American Bureau of Shipping that will do a rapid response damage assessment. Within one hour they will be able to give a vessel a quick and effective assess-

ment of the damage scenario and recommendation of what should be done. This requires pre-entering (computing) all of the vessels' hydrostatic and strength data. It is not a simple undertaking.

So that those things are in place, and this was the result of the Reg-Neg discussions, realizing that was an important consideration, that you don't simply transfer cargo without doing it, and with due consideration on how it is going to affect the vessel.

So those things are taking place simultaneously, and depending on the severity, some things will happen faster than others.

Mr. STUPAK. Thank you.

Mr. TAUZIN. Thank you, Mr. Stupak.

Just quickly, if you go out of business, what happens?

Mr. JOECKEL. You don't drive your car.

Mr. TAUZIN. But don't we drill oil in Louisiana?

Thank you very much. The subcommittee is adjourned.

[Whereupon, at 4:35 p.m., the subcommittee was adjourned, and the following was submitted for the record:]

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U.S. House of Representatives
Committee on
Merchant Marine and Fisheries
Room 1334, Longworth House Office Building
Washington, DC 20515-6230

February 12, 1993

BACKGROUND MEMORANDUM

TO: MEMBERS, SUBCOMMITTEE ON COAST GUARD AND NAVIGATION

FROM: SUBCOMMITTEE STAFF

RE: COAST GUARD IMPLEMENTATION OF THE OIL POLLUTION ACT OF 1990 (OPA 90), SECTIONS 4111, 4114, AND 4116(b)

At 10:00 a.m. on Wednesday, February 17, 1993, in 1334 Longworth House Office Building, the Subcommittee on Coast Guard and Navigation will conduct a hearing on the Coast Guard's implementation of the Oil Pollution Act of 1990 (OPA 90), Public Law 101-380.

The Coast Guard witnesses will be Admiral Arthur E. Henn, Chief, Office of Marine Safety, Security, and Environmental Protection, and Admiral William J. Ecker, Chief, Office of Navigation Safety and Waterway Services. The Subcommittee plans to invite additional witnesses to testify at another OPA 90 implementation hearing in the near future.

Background

OPA 90 established a comprehensive system of liability and compensation for damages caused by oil pollution and established a comprehensive nationwide program to prevent and remove discharges of oil and hazardous substances on the navigable waters and exclusive economic zone of the United States.

The hearing will examine the tanker safety record in United States waters since enactment of OPA 90 and what remains to be done to assure we do not have a repeat of the Exxon Valdez Oil Spill. When the OPA 90 was signed into law, it fundamentally changed the Coast Guard's responsibility for preventing and responding to oil spills. OPA 90 is the single largest implementation responsibility the Coast Guard has ever received. The Act established strict deadlines for its administrative and regulatory implementation.

However, the Coast Guard has been unable to meet many of those statutory deadlines. The Coast Guard attributes these delays to: (1) the time it takes to issue rules under the Administrative Procedure Act; (2) the process for clearing rules through the Department of Transportation (DOT) and the Office of Management and Budget (OMB); and (3) the two moratoria on rulemaking that the Bush-Quayle Administration put into effect last year.

Approximately 80% of all maritime accidents are caused by human error. This hearing will investigate the Coast Guard's progress in implementing three specific sections of OPA 90 that address the human factor in tanker navigation safety, and what has delayed the study and rules required by these provisions.

Study of Navigation Safety Standards

Section 411(a) of OPA 90 requires the Secretary of Transportation to report on the adequacy of existing laws and regulations to ensure the safe navigation of vessels transporting oil or hazardous substances. The recent Shetlands Oil Spill has highlighted, once again, the importance of tanker navigation safety. The Secretary delegated responsibility for the study to the Coast Guard. The report on navigation safety was due to Congress in August of 1992. The Coast Guard has not completed the study and estimates that its final report to Congress will not be delivered until 1995.

As part of the study, Subsection 411(b) requires the Coast Guard to examine specific issues concerning size and qualification of tanker crews, navigation (practices equipment, technologies), tanker crew response to spills, tanker free zones, tanker inspections, bridge training simulators, twenty-year tanker trends (size, flag, capacity), and the feasibility of using remote alcohol testing methods for tanker crews. Subsection (c) requires that the study findings and implementing recommendations be transmitted to Congress not later than two years after the date OPA 90 was enacted, or by August 18, 1992.

The Coast Guard is conducting the Study on Tanker Navigation Safety through a combination of National Academy of Sciences studies, contracts with the Volpe National Transportation Systems Center, ongoing Coast Guard research and development projects, Coast Guard Headquarters studies, and other outside contracts.

Tanker Vessel Manning and Pilotage Rule Making

Sections 4114(a) and 4116(b) require the Secretary to designate waters where tankers must navigate under stricter rules than are now required, for example, waters in which the auto-pilot of a tanker is not to be engaged, or where the master or mate is required to be on the bridge. These rulemakings are important because they discuss the proper role of both trained personnel and the use of technology in promoting navigation safety.

The Act required the Secretary to initiate this rulemaking within 180 days of enactment. The Coast Guard has issued proposed, but not final rules for these provisions. To implement these sections, the Coast Guard has published the following Notices of Proposed Rule Making (NPRM) and Supplemental Notices of Proposed Rulemakings (SNPRM):

- (1) Use of Automatic Pilot Systems, on January 6, 1992 (NPRM) and October 2, 1992 (SNPRM);
- (2) Operating Requirements for Automated, Unattended Machinery Spaces, on April 9, 1992 (NPRM) and October 2, 1992 (SNPRM); and
- (3) Requirements for Second Licensed Officer on the Bridge of a Tanker, on October 2, 1992 (NPRM).

The public comment periods on the NPRM's closed on December 1, 1992. The Coast Guard plans to combine the three separate rulemakings into one final rule, to be published in the Spring of 1993. Copies of the NPRM's and SNPRM's are in Member's folders.

Statutory Changes to Tanker Manning Standards

Section 4114(b) through (e) of OPA 90 amended four existing sections of title 46 of the United States Code pertaining to manning requirements aboard tankers. The amendments were intended to improve tanker safety and are currently in effect. The Coast Guard has determined that no new regulations are required to implement them.

Section 8104 of title 46, United States Code, prohibits tanker crews from working more than 15 hours in a 24 hour period or 36 hours in a 72 hour period.

Section 8101(a) of title 46, United States Code, requires that the navigation, cargo handling, and maintenance functions be considered in determining or setting manning requirements for tank vessels.

Section 9102(a) of title 46, United States Code, requires that vessel maintenance function instructions be added to the standards for duties, qualifications, and training of officers and crews on tank vessels.

Section 7502 of title 46, United States Code, requires that records on issuance, denials, suspensions, and revocations of merchant mariners credentials be computerized.

Issues

Study of Tanker Navigation Safety Standards

- * What is the record on oil spills in the United States since enactment of OPA 90?
- * What factors affect tanker safety? Have any of these factors changed since OPA 90 was enacted?
- * Does the United States have any lessons to learn from the recent Shetlands Oil Spill?
- * If much of the final report will be based on studies that have already been completed, why has the final report been delayed to 1995?
- * What action has the Coast Guard taken to implement existing information on tanker safety?
- * What action has the tanker industry taken to improve safety? Will these changes be taken into account in completing the report?
- * Do we need to expedite the schedule for outfitting tankers with double hulls?
- * Does the Coast Guard need more resources to complete the tanker safety study and meet other OPA 90 deadlines?
- * Will the report be consistent with the results of the Port Needs Study that was released last year?
- * Do tanker free zones need to be established in United States waters and, if so, does the Coast Guard have the authority to designate them?
- * What can the Coast Guard do to expedite the study, or to complete pieces of it and report back to Congress sooner?

Tanker Manning and Pilotage Rulemakings

- * Will the final rulemakings have to be reconsidered when the Tanker Navigation Safety Study is complete?
- * Considering the potential for collisions, should the new manning regulations apply non-tankers too?
- * Differential Global Positioning Satellites services will be available throughout the United States in January 1996, how will this technology change autopilot regulations?

Statutory Changes to Tanker Manning Standards

- * Have the changes placed greater demands on Coast Guard resources?
- * Should the same rules apply to all vessels of similar size?
- * Is the Coast Guard currently enforcing these new standards? Are there any problems with enforcement?

Contacts

For additional information, please call:

Majority-Elizabeth Megginson or Jim Adams at 6-3587
 Minority-Rebecca Dye or Ed Lee at 6-3540

the Small Business Act (15 U.S.C. 632). "Small entities" also include small not-for-profit organizations and small governmental jurisdictions. Because it expects the impact of this proposal to be minimal, the Coast Guard certifies under 5 U.S.C. 605(b) that this proposal, if adopted, will not have a significant economic impact on a substantial number of small entities.

Collection of Information

This proposal contains no collection of information requirements under the Paperwork Reduction Act (44 U.S.C. 3501 *et seq.*).

Federalism

The Coast Guard has analyzed this proposal in accordance with the principles and criteria contained in Executive Order 12812 and has determined that this proposal does not have sufficient federalism implications to warrant the preparation of a Federalism Assessment. This proposed rule would require a second licensed officer on the bridge of all seagoing tankers of 1,800 gross tons or more transiting the internal waters of the United States, irrespective of the vessel's flag status. Generally, for foreign flag vessels and United States vessels sailing on registry in U.S. internal waters, States set pilotage requirements, and the Federal government may act only when the State has not exercised its authority. Once a State establishes a pilotage requirement for foreign flag and U.S. vessels sailing on registry, any Federal pilotage requirement is terminated. This proposed rule does not alter the State-Federal relationship regarding pilotage requirements, and does not preempt the States authority to establish a requirement for a State pilot under 46 U.S.C. 8501.

For manning requirements other than pilotage, it is a well-settled principle that regulations concerning manning of U.S. commercial vessels are an exclusive domain of the Coast Guard. Further, standardizing vessel manning requirements is necessary because vessels move from port to port in the national marketplace, and variation of manning requirements would unreasonably burden vessel owners and operators. Therefore, if this rule becomes final, the Coast Guard intends it to preempt State action addressing the same subject matter.

Environment

The Coast Guard considered the environmental impact of this proposal and concluded that preparation of an environmental impact statement is not

necessary. An Environmental Assessment (EA) is available in the docket for inspection or copying where indicated under "ADDRESSES." The EA discusses the environmental consequences of the proposed actions and alternatives, including a no-action alternative. This proposed action is not expected to result in significant impact on the quality of the human environment, as defined by the National Environmental Policy Act.

List of Subjects in 33 CFR Part 164

Incorporation by reference, Marine safety, Navigation (water), Reporting and recordkeeping requirements, Seamen, Security measures, Waterways.

For the reasons set out in the preamble, the Coast Guard proposes to amend 33 CFR part 164 as follows:

PART 164—NAVIGATION SAFETY REGULATIONS

1. The authority citation for part 164 is revised to read as follows:

Authority: 33 U.S.C. 1231; 46 U.S.C. 2103, 3703; 46 CFR 1.46; Sec. 164.13 also issued under 46 U.S.C. 8502, 8503; sec. 4144(a), Pub. L. 101-380, 104 Stat. 517 (46 U.S.C. 3703 note). Sec. 164.61 also issued under 46 U.S.C. 8101.

2. In § 164.13, paragraph (c) is added to read as follows:

§ 164.13 Navigation underway: Tankers and ITBs.

(c) All tankers, when underway in the internal waters of the United States as defined in § 2.05-20 of this chapter, except those operating with a certificate of inspection endorsed only for Great Lakes service or only for Lakes, Bays, and Sounds service, must navigate with at least two licensed officers on the bridge. One of those licensed officers may be a Federal or State licensed pilot.

Dated: September 24, 1992.

W.J. Eckert,

Rear Admiral, U.S. Coast Guard, Chief, Office of Navigation Safety and Waterway Services.

[FR Doc. 92-23736 Filed 10-1-92; 8:45 am]

BILLING CODE 4910-14-M

33 CFR Part 164

46 CFR Part 35

[CGD 91-204]

RIN 2115-AE00

Use of Automatic Pilot: Area Restrictions and Performance Requirements

AGENCY: Coast Guard, DOT.

ACTION: Supplemental notice of proposed rulemaking.

SUMMARY: On January 6, 1992, the Coast Guard published a notice of proposed rulemaking that would have allowed tank vessels to use automatic pilots in certain areas within the navigable waters of the U.S. provided that the automatic pilot met certain standards and that a qualified helmsman was present. This supplemental notice of proposed rulemaking revises the January 6 proposal by changing the applicability provisions, allowing highly sophisticated systems to be used in some areas, and deleting Regulated Navigation Areas from the list of Areas where automatic pilots must not be used. This proposed rule should promote the safe operation of tankers and integrated tug barge combinations in U.S. waters.

DATES: Comments must be received on or before December 1, 1992.

ADDRESSES: Comments may be mailed to the Executive Secretary, Marine Safety Council (C-LRA/3406) (CGD 91-204), U.S. Coast Guard Headquarters, 2100 Second Street SW., Washington, DC 20593-0001, or may be delivered to room 3406 at the above address between 8 a.m. and 3 p.m., Monday through Friday, except Federal holidays. The telephone number is (202) 267-1477.

The Executive Secretary maintaining the public docket for this rulemaking. Comments will become part of this docket and will be available for inspection and copying at room 3406, U.S. Coast Guard Headquarters. A copy of the material listed in "Incorporation by Reference" of this preamble is available for inspection at room B-615, U.S. Coast Guard Headquarters.

FOR FURTHER INFORMATION CONTACT: Lieutenant Commander Paul Jewell, Project Manager, Oil Pollution Act (OPA 90) Staff, (202) 267-6746, between 7 a.m. and 3:30 p.m., Monday through Friday, except Federal holidays.

SUPPLEMENTARY INFORMATION:

Request for Comments

The Coast Guard encourages interested persons to participate in this rulemaking by submitting written data, views, or arguments. Persons submitting comments should include their names and addresses. Identify this rulemaking (CGD 91-204) and the specific section of this proposal to which each comment applies, and give the reason for each comment. Persons wanting acknowledgment of receipt of comments should enclose a stamped, self-addressed postcard or envelope.

The Coast Guard will consider all comments received during the comment period. It may change this proposal in view of the comments.

The Coast Guard plans no public hearing. Persons may request a public hearing by writing to the Marine Safety Council at the address under "ADDRESSES." If it determines that the opportunity for oral presentations will aid this rulemaking, the Coast Guard will hold a public hearing at a time and place announced by a later notice in the Federal Register.

Drafting Information

The principal persons involved in drafting this document are Lieutenant Commander Paul Jewell, Project Manager, and Joan Tighman, Project Counsel, OPA 90 staff.

Related Rulemaking

This rulemaking is a companion rulemaking to "Second Officer on the Bridge" (CGD 61-222) and "Unattended Machinery Spaces Operating Requirements" (CGD 91-203). Those proposed rules are published elsewhere in this issue of the Federal Register. If these three proposed rules are adopted, they will be combined in a new section, 33 CFR 164.13 "Navigation underway: Tankers and TIBs." In CGD 91-203, proposed paragraph (a) of new § 164.13 defines "tanker" as a self-propelled tank vessel constructed or adapted primarily to carry oil or hazardous material in bulk in the cargo spaces, and "integrated tug barge" or "TIB" as a combination of a pushing vessel and a vessel being pushed ahead which are rigidly connected in a composite unit and are required by rule 24(b) of the International Regulations for Preventing Collisions at Sea, 1972 (72 COLREGS) (App. A to 33 CFR part 61) to exhibit the lights prescribed in Rule 23 for a "Power Driven Vessel Underway." In CGD 61-203, proposed paragraph (b) of new § 164.13 requires the machinery spaces of these vessels to be attended when underway in the navigable waters of the United States. In CGD 91-222, proposed paragraph (c), designates all internal waters of the United States as waters where seagoing tankers of 1,600 gross tons or more will be required to navigate with at least two licensed officers on the bridge. In this rulemaking (CGD 91-204), proposed paragraphs (d) and (e) of new § 164.13 will establish restrictions and exemptions for the use of auto pilots in U.S. navigable waters.

Regulatory History

On January 8, 1982, the Coast Guard published a notice of proposed rulemaking (NPRM) in the Federal

Register (47 FR 514) entitled "Use of Automatic Pilot: Area Restrictions and Performance Standards." The Coast Guard received 25 letters commenting on the proposal. A public hearing was not requested and one was not held.

Background and Purpose

Section 4134(a) of OPA 90 requires the Coast Guard to define the conditions under which, and designate the waters upon which, tank vessels subject to 46 U.S.C. 3703 may operate in U.S. navigable waters with the automatic pilot (auto pilot) engaged. A "tank vessel" to which 46 U.S.C. 3703 applies is defined in 46 U.S.C. 2101(3) as—

A vessel that is constructed or adapted to carry, or that carries, oil or hazardous material in bulk as cargo or cargo residues, and that—

- (A) is a vessel of the United States;
- (B) operates on the navigable waters of the United States; or
- (C) transfers oil or hazardous material in a port or place subject to the jurisdiction of the United States.

Section 4134(a) specifies that this rule apply only on the navigable waters of the United States. As defined in 33 U.S.C. 3703, navigable waters are the waters of the United States, including the territorial sea. This definition does not encompass the waters of the Exclusive Economic Zone (EEZ). Further, under 46 U.S.C. 3702 and 3703, foreign vessels on innocent passage on the navigable waters of the United States are exempt from rules issued under section 4134(a).

In the NPRM published on January 8, the Coast Guard proposed that an auto pilot could be engaged in all U.S. waters except traffic separation schemes, regulated navigation areas, shipping safety fairways, anchorage areas, vessel service areas, or any area within one-half nautical mile of any U.S. shore; that any auto pilot used must conform with the standards recommended by International Maritime Organization (IMO) Resolution A.342(X) adopted on November 12, 1975; and that an able seaman or licensed deck officer be at the helm of a tank vessel in all U.S. waters when the auto pilot is engaged.

Discussion of Comments and Changes

A total of 25 comment letters were received. The comments generally addressed the applicability of the rule, the waters where the prohibition on the use of an auto pilot will apply, and integrated navigation systems.

Applicability

One comment indicated that this rulemaking should apply to vessels that carry hazardous material in bulk,

because these materials pose a greater threat than oil to public safety and the environment. The comment noted that placing this rule in 46 CFR subchapter D would inadvertently omit vessels carrying non-flammable hazardous material in bulk. The comment stated that 46 CFR subchapter D only applies to vessels carrying combustible or flammable liquids in bulk. Another comment letter noted the same omission and suggested that the Coast Guard also amend 46 CFR 30.07-5 to make it clear that foreign flag vessels fall under the proposed rule.

The Coast Guard proposes that this rule apply to all tankers 1,600 gross tons or more, irrespective of the vessel's flag or specific cargo. To eliminate any confusion about the applicability, the Coast Guard is proposing to include the rule as part of the navigation safety regulations in 33 CFR part 164 and define the vessels to which this rule applies.

Another comment suggested that the Coast Guard define "tank vessel" for this rulemaking to include only "self-propelled tankships greater than 1,600 gross tons." The comment letter stated that this definition would identify clearly the vessels targeted by this rule.

Under 46 CFR 30.10-47, a "tankship" means "any tank vessel propelled by power or sail." OPA 90 states that this rule should apply to tank vessels subject to 46 U.S.C. 3703. These "tank vessels" include self-propelled ships and barges. However, as a practical matter this rule should not apply to tank barges because they are not self-propelled and they are not equipped with auto pilots. The Coast Guard has also adopted the position that tank vessels that carry oil as a secondary cargo should not be subject to this rule because they do not pose the same threat to the environment as tank vessels designed to carry oil as a primary cargo. The rule should more appropriately apply to "tankers" defined as "a self-propelled tank vessel constructed or adapted primarily to carry oil or hazardous material in bulk in the cargo spaces." Therefore, the Coast Guard has added a provision in this supplemental notice to identify clearly the type of vessel subject to the proposed rule.

Under 33 CFR part 154, vessels that are less than 1,600 gross tons are excluded from the Navigation Safety regulations of that part. The Coast Guard's position is that it is also appropriate to exclude tankers less than 1,600 gross tons from this rulemaking. These vessels pose less of a safety risk than larger tankers because they have shallow drafts and are more

maneuverable than larger tankers. The size and maneuverability of vessels less than 1,800 gross tons allows them to avoid navigational hazards more easily than larger tankers.

One comment insisted that the Coast Guard had incorrectly interpreted section 4114(a) by failing to include vessels towing tank barges in the proposed rule. The comment stated that the rule should apply to these vessels because tank barges have the same potential to harm the environment as do other tank vessels. Another comment stated that the Coast Guard should specifically exempt vessels towing tank barges, because a vessel on auto pilot while towing a barge greatly reduces the risk of casualty. This comment stated that the auto pilot can maintain a straighter course than a helmsman, reducing the side-to-side movement of the two and giving the operator of the towing vessel better control of the tank barge.

The Coast Guard considered these comments and is proposing that this rule should also apply to towing vessels only when they are part of an integrated tug/barge (ITB) certificated as a tankship. An operator navigates these ITBs in the same manner as a tanker, and ITBs pose a threat to the environment similar to tankers.

The Coast Guard does not agree that this rule should extend to all towing vessels. External forces affect a towing vessel and its tow differently than they affect a tankship. Using an auto pilot may give the towing vessel operator better control of a barge.

Two comment letters suggested that this rule should apply to all vessels because any vessel using an auto pilot may be in an accident and may discharge oil into the water. The Coast Guard does not agree. OPA 90 specifies that this rule should apply only to tank vessels, and the Coast Guard has no causality or other data that support extending the applicability to all other vessels. In fact, Coast Guard casualty data indicate that most vessel casualties result from personnel error rather than mechanical error. Using an auto pilot does not relieve the mariner of the duty to exercise navigational caution.

One comment did not agree that foreign vessels on innocent passage should be exempt from this rule. This comment stated that foreign vessels face the same navigational hazards as U.S. vessels and, therefore, should be subject to the same rules.

Section 4114(a) applies only to a vessel subject to 46 U.S.C. 3703. A foreign vessel on innocent passage is not subject to 46 U.S.C. 3703. A foreign vessel is on "innocent passage" when it

passes through another country's waters engaging only in activities having a direct bearing on passage. A foreign tanker entering U.S. waters to transfer "oil or hazardous material in a port or place subject to the jurisdiction of the United States" is not on innocent passage and, therefore, is subject to this rule.

Two comments understood the proposed rule to mean that the licensed deck officer navigating the tanker must be different from any licensed deck officer who may steer the vessel. These comments suggested that the Coast Guard revise the proposed rule to exempt tankers that normally operate with the licensed deck officer of the watch at the helm rather than a separate helmsman steering the vessel. The bridge configuration on these tankers is apparently similar to a towing vessel, which has only one steering station in the pilothouse. On vessels with this configuration, the licensed deck officer of the watch must steer, direct, and control the movement of the vessel. The comment letters stated that exempting these vessels from the rule is safer because allowing the licensed deck officer of the watch to steer reduces the likelihood that helm commands will be misunderstood. Further, if the rule is applied to tankers without a helmsman required by the Certificate of Inspection, operating costs for the owners of these tankers would increase because the owners would have to hire additional personnel to serve as dedicated helmsmen to comply with the rule. Consequently, the costs of imposing such a requirement would outweigh the benefits because the safety record of those kinds of tankers demonstrate that hiring additional personnel as helmsmen would be an unnecessary burden.

The Coast Guard does not intend to prohibit the licensed deck officer of the watch from steering a tanker when necessary. A licensed deck officer often steers a vessel when the vessel is docking or passing in a restricted channel. The intent of the proposed provision was to require a qualified individual to be at the helm in U.S. waters in case an immediate course change is required. Rather than exempting vessels that operate with the licensed deck officer of the watch as the helmsman, we have reorganized the section of the proposed rule requiring a qualified individual to be at the helm to clarify who is allowed to steer the vessel.

Although the Coast Guard recognizes the need for the licensed deck officer of the watch to steer a tanker on occasion, the Coast Guard is concerned that continuous manual steering by the

licensed deck officer of the watch may detract the licensed officer from other duties associated with safe navigation. In a separate rulemaking (CGD 91-222) to implement another provision of OPA 90, the Coast Guard is designating waters where a second licensed officer must be on the bridge of certain tankers to assist with navigating. Having two licensed deck officers on the bridge will ensure that when one officer is manually steering, another licensed deck officer will be available to assist with the navigation of the tanker.

One comment requested that the Coast Guard specifically state that "oil spill response vessels" (OSRVs) are excluded from the definition of "tank vessels." The comment rationalized that although OSRVs are constructed to carry oil, the oil carried is not cargo but incidental to an oil spill recovery operation. Consequently, these vessels are not "vessels . . . constructed or adapted to carry oil in bulk as cargo."

This rulemaking does not apply to OSRVs. The Coast Guard is proposing to limit this rule only to ITBs certificated as tankships and tankers 1,800 gross tons or more.

Waters Where Use of an Auto Pilot is Prohibited.

Two comments stated it is inappropriate to include Regulated Navigation Areas (RNAs) as areas where the auto pilot should be disengaged. The comments pointed out that there may not be a navigational circumstance in an RNA that would warrant the restriction on the use of the auto pilot, and the comments cited RNAs restricting navigation near ice bridges as an example of an RNA where application of the restriction would be unjustified.

The Coast Guard agrees that auto pilot restrictions may not be suitable in many RNAs. Consequently, the Coast Guard has deleted RNAs as areas where the use of auto pilots is restricted.

Six comments suggested that allowing tankers to navigate on auto pilot as close as one-half mile off shore was too permissive, with most of these comments suggesting that 3 miles was a more reasonable standard. Generally, these comments indicated that any tanker within one-half mile of shore would be unable to respond to an auto pilot failure in a timely manner.

Prohibiting the use of auto pilots within 3 miles of shore effectively prohibits the use of an auto pilot in most U.S. waters and is unwarranted. The Coast Guard has determined that this restriction is unnecessarily burdensome. An auto pilot, used in the proper

situations and with reasonable monitoring by the licensed deck officer of the watch, is a valuable navigation safety tool. However, there are areas where tankers should refrain from using an auto pilot, because rapid helm response may be necessary. The Coast Guard has identified these areas in the supplemental notice and included any area one-half mile from shore.

One comment suggested that the Coast Guard prohibit engaging an auto pilot within 3 miles of any shore, shoal, reef, or other navigational obstacle. The navigable waters of the U.S. only extend to 3 nautical miles from the territorial sea baseline. The Coast Guard cannot extend the applicability of this rule beyond these waters under section 4114(a) of OPA 90.

Another comment stated that setting operating restrictions based on "distance-from-shore criteria" was inappropriate because channel width, limiting draft, and other tanker maneuvering restrictions are more important.

The Coast Guard's intent in including the one-half mile from shore restriction was to ensure that tankers not operate in narrow rivers and confined ports while on auto pilot. A rule basing operating conditions on the draft of a vessel, channel width, and other maneuvering restrictions would make both compliance and enforcement difficult. Such a rule would be subject to continual variation and individual interpretation depending on vessel characteristics, tidal fluctuations, the natural shifting of channels, and other factors. The supplemental notice as constructed should ensure national consistency. The Coast Guard would be unable to maintain this consistency if it based operating restrictions on the factors suggested in the comment letter.

Integrated Navigation Systems

Six comments objected to the proposed rule stating that the approach proposed by the Coast Guard would increase the risk of casualty for tankers underway. Most of these comments noted that a modern auto pilot that is part of an integrated navigation system is far more capable and reliable than the older auto pilots described in the IMO standards. These comments gave a variety of reasons why operation with an auto pilot, particularly one that is part of an integrated navigation system, is far safer than operation with a helmsman and should be unregulated.

First, helmsmen are demonstrably more prone to error than are modern auto pilots. Second, restricting the use of auto pilots hinders the rapid technological development of integrated

navigation systems. In low visibility, auto pilots integrated with electronic charts and positioning systems can take a vessel through complex waterways more easily and safely than the deck watch officer and helmsman combination.

Third, using an auto pilot greatly reduces the opportunity for misunderstood commands between the deck officer of the watch and the helmsman and, consequently, aids the vessel's safer operation. Fourth, integrated navigation systems are better than manual vessel control for track-keeping accuracy and are more precise than manual steering in turning a vessel.

One comment stated that one European country requires vessels to use a certain type of automatic steering device when the vessel is transiting the Rhine River in fog.

The Coast Guard recognizes that integrated navigation systems may improve navigation safety. These modern devices have accuracies and capabilities that were unavailable in 1974 when the IMO developed Resolution A.342(DX), "Recommendations on Performance Standards for Automatic Pilots." Currently, the Coast Guard and the Maritime Administration are studying and testing these advanced systems. There is evidence that integrated navigation systems may be superior to helmsmen in many situations because these advanced systems are significantly less prone to mechanical malfunctions than helmsmen are prone to error. However, the Coast Guard also recognizes that although a modern auto pilot can maintain a straighter course than a helmsman and may be more dependable over longer distances, those advantages do not necessarily improve navigation safety in all situations. Despite how well an auto pilot can perform, it cannot anticipate an emergency situation or cope with a dilemma.

In the interest of reducing the risk of casualties involving tankers, the Coast Guard wants to encourage the use and further development of these systems. Consequently, the Coast Guard is proposing to exempt any tanker or ITB from some of the area restrictions in this supplemental notice if that tanker or ITB is equipped with an auto pilot that meets certain performance standards. To be exempt from some of the area restrictions, the tanker master must be able to provide, upon request, documentation that the vessel's integrated navigation system can maintain trackline steering with a cross track error of less than 10 meters; can provide accurate position data within 20

meters; and has an immediate override control. While any tanker is transiting the navigable waters of the United States with the integrated navigation system engaged, the Coast Guard will require that a qualified individual be available immediately to override the system and to take manual control of the vessel. This exemption will apply only to tankers in those portions of traffic separation schemes and shipping safety fairways that are in the navigable waters of the United States. Tankers in anchorage grounds or within one-half mile of any U.S. shore must be under manual control.

Other Comments

One comment stated that the Coast Guard cannot enforce this rule unless there is some way for an enforcement officer to observe compliance while that vessel is underway. The comment suggested that the Coast Guard require a vessel to have a bright flashing light immediately below the steering light when the auto pilot is engaged.

The Coast Guard notes that mariners and tanker owners expose themselves to significant enforcement consequences and liability if a casualty investigation reveals that the vessel was operating in violation of this or any other rule. This potential exposure should provide ample incentive for mariners and tanker owners to comply with the rule. Further, installing a light would violate international agreements on vessel lighting, and it may actually increase the risk of vessel casualties because mariners expect a flashing light to indicate an aid to navigation. Therefore, such a light installed on a ship most likely would cause confusion.

The same comment also stated that the Coast Guard should require locating auto pilot controls where a helmsman can quickly disengage the auto pilot without leaving the helm or relying on another crewmember.

The IMO resolution on the performance standards for auto pilots, which the Coast Guard is incorporating by reference in the supplemental notice, states that "change-over controls should be located close to each other in the immediate vicinity of the main steering position." The Coast Guard's position is that any further regulation of the location of these controls is unnecessary.

One comment expressed the thought that the Coast Guard was requiring a tug escort for vessels operating with the auto pilot engaged. There is nothing in the proposed rule that requires a tanker with the auto pilot engaged to have a towing vessel escort. The Coast Guard

is developing towing escort regulations separately. (See "Escort Vessels for Certain Oil Tankers" NPRM (CGD 91-202), 57 FR 30054, July 7, 1992.) In the auto pilot NPRM, the Coast Guard did state that after designating areas where tankships must have towing vessel escorts, it may restrict the use of auto pilots on those tankships in the designated areas.

One comment letter noted that the conditions under which the auto pilot may be used are not specified in the proposed rule. This comment letter further questioned if the Coast Guard interprets 46 U.S.C. 8702(d) as prohibiting the use of auto pilot under certain conditions.

Previously, 46 CFR 35.20-45 required a tankship master to ensure that, when a vessel crewmember engaged an auto pilot in conditions of restricted visibility, high traffic density, or other hazardous navigational situations, it was possible to establish immediate control of the steering; a competent person was ready to take over the helm; and the changeover from one steering mode to the other was made under the supervision of the licensed deck officer of the watch. This supplemental notice requires more stringent precautions (i.e., a qualified helmsman is always at the helm, the auto pilot conforms to IMO standards, and the auto pilot is allowed to be used only in certain areas) under all conditions while the vessel is in the navigable waters of the United States.

The Coast Guard does not interpret 46 U.S.C. 8702(d) to prohibit the use of an auto pilot. Specifically, 46 U.S.C. 8702(d) states that "an individual having a rating of less than able seaman may not be permitted at the wheel in ports, harbors, and other waters subject to congested vessel traffic, or under conditions of reduced visibility, adverse weather, or other hazardous circumstances." This section prevents a trainee from steering a vessel during certain conditions and does not address or prohibit the use of an auto pilot under those conditions.

Two comments expressed opinions regarding what it means for an able seaman or licensed deck officer to be "present at the helm" in the context of the proposed rule. One of those comments stated that the qualified helmsman should be physically at the helm to change from automatic to manual steering in the shortest possible time. This comment noted that the Coast Guard should discourage the practice of having the helmsman engaged elsewhere on the vessel and reporting to the bridge only when summoned. The second comment noted that a requirement for off-course alarms

eliminates any need to have a helmsman physically at the helm and that the qualified helmsman should simply be in proximity to the helm at all times.

One of the purposes of this supplemental notice is to ensure that tankers and ITBs have a qualified individual immediately present to take manual control of the steering in an emergency. The Coast Guard agrees that a helmsman or licensed deck officer should be at the helm while a tanker or ITB is operating in the navigable waters of the United States. Having a qualified individual "in proximity of the helm" is ambiguous and may allow a liberal interpretation, which would defeat the purpose of the proposed rule. The Coast Guard has determined that to be "present at the helm," someone must be available immediately to override an auto pilot system while an auto pilot is used in the navigable waters of the United States.

The final comment objected to prohibiting the use of the auto pilot in traffic separation schemes and shipping safety fairways because many of these areas are many hours from the nearest port, and requiring manual steering in these areas will increase the fatigue of tanker crew members. This comment also expressed concerns that had been raised in other comments.

The supplemental notice applies only to tankers and ITBs in the navigable waters of the United States out to 3 nautical miles from the territorial sea baseline. The Coast Guard is proposing to limit the rule to within 3 nautical miles of the baseline to clearly specify where the rule will apply. Because the U.S. has declared that the territorial sea extends to 12 nautical miles for some purposes and 3 nautical miles for others, the specific language in this supplemental notice should resolve any question mariners may have about the waters where the proposed rule applies. Many traffic separation schemes and shipping safety fairways are not within the navigable waters of the United States. This supplemental notice does not prohibit tankers or ITBs from engaging the auto pilot when in traffic separation schemes or shipping safety fairways that are beyond the navigable waters of the United States.

The NPRM referred to "traffic separation schemes specified in 33 CFR part 167." There are also traffic separation schemes specified in 33 CFR part 161 that are part of Vessel Traffic Service (VTS) areas. The NPRM proposed to prohibit the use of auto pilots in the VTS areas, but it did not specifically refer to the traffic separation schemes in 33 CFR part 161. To clarify that auto pilots may not be

used in traffic separation schemes, the wording has been amended to include those parts of all traffic separation schemes in 33 CFR subchapter P (parts 160-167) which are in the navigable waters of the United States. The reference to Vessel Traffic Service areas will be deleted to eliminate duplication and confusion.

Incorporation by Reference

The following material would be incorporated by reference in § 164.03: IMO Resolution A.342(DX), Recommendation on Performance Standards for Automatic Pilots, adopted November 12, 1975. Copies of the material are available for inspection where indicated under "Accession." Copies of the material are available at the addresses in § 164.03.

Before publishing a final rule, the Coast Guard will submit this material to the Director of the Federal Register for approval of the incorporation by reference.

Regulatory Evaluation

The Coast Guard has determined that this proposal is not major under Executive Order 12291. This proposal is not significant under the Department of Transportation Regulatory Policies and Procedures for Simplification Analysis and Review of Regulations (Order 2100.5) because its cost is expected to be minimal and it does not meet any of the criteria listed in paragraph 6(a)(2) of the Order. There will be no cost to vessel owners in complying with this rule because the proposal is permissive. Rather than requiring or prohibiting the use of auto pilot technology, the Coast Guard informs vessel owners or operators who choose this technology when their crews may employ it. The proposal neither requires equipment nor increases crew size. Consequently, this proposal will not result in annual costs of \$100 million; will have no significant adverse effects on competition, employment, or other aspects of the economy; and will not result in a major increase in costs and prices.

Small Entities

Under the Regulatory Flexibility Act (5 U.S.C. 601 *et seq.*), the Coast Guard must consider whether this proposal will have a significant economic impact on a substantial number of small entities. "Small entities" include independently owned and operated small businesses that are not dominant in their field and that otherwise qualify as "small business concerns" under section 3 of the Small Business Act (15 U.S.C. 632). "Small entities" also include small not-

for-profit organizations and small governmental jurisdictions. Because there are no new costs associated with implementing this rule, the Coast Guard certifies under 5 U.S.C. 605(b) that this proposal, if adopted, will not have a significant economic impact on a substantial number of small entities.

Collection of Information

This proposal contains no collection of information requirements under the Paperwork Reduction Act (44 U.S.C. 3501 et seq.).

Federalism

The Coast Guard has analyzed this rule in accordance with the principles and criteria contained in Executive Order 12612, and has determined that this rule does not have sufficient federalism implications to warrant the preparation of a Federalism Assessment.

Section 4114(a) of OPA 90 requires the Secretary to do a rulemaking to define the conditions under which, and designate the waters upon which, subject tank vessels can operate in the navigable waters of the U.S. with an auto pilot. A State regulation more permissive or more restrictive would conflict with the Federal requirements. Further, because vessels move from port to port in the national marketplace, a variation of auto pilot operating requirements would unreasonably burden vessel owners and operators. Therefore, if this rule becomes final, the Coast Guard intends it to preempt State action addressing the same subject matter.

Environment

The Coast Guard considered the environmental impact of this proposal and concluded that preparation of an environmental impact statement is not necessary. A preliminary Environmental Assessment is available in the docket for inspection or copying where indicated under "ADONIS-55823."

This proposal is not expected to result in significant impact of the quality of the human environment, as defined by the National Environmental Policy Act. In evaluating the environmental impact of the proposed action, the following points were considered:

(1) Environmental benefits of regulating the use of auto pilots cannot be quantified in isolation, due to the complementary effects of other OPA 90-related regulatory changes. For example, regulations dealing with improved crew training, manning standards, vessel traffic control, and other OPA 90 initiatives should result in reduced

casualties and reduced numbers and volumes of spills;

(2) The proposed action involves the navigable waters of the U.S. and should contribute toward the prevention of spills especially when vessels are maneuvering near shorelines and/or in congested waterways.

List of Subjects

33 CFR Part 164

Incorporation by reference, Marine safety; Navigation (water); Reporting and recordkeeping requirements, Seamen, Security measures, Waterways.

46 CFR Part 35

Cargo vessels, Marine safety, Navigation (water), Occupational safety and health, Reporting and recordkeeping requirements, Seamen.

For the reasons set out in the preamble, the Coast Guard proposes to amend 33 CFR part 164 and 46 CFR part 35 as follows:

TITLE 33 CFR—(AMENDED)

PART 164—NAVIGATION SAFETY REGULATIONS

1. The authority citation for part 164 is revised to read as follows:

Authority: 33 U.S.C. 1231; 46 U.S.C. 3702, 3703; 46 CFR 1.46. Sec. 164.13 also issued under 46 U.S.C. 8002, 8003; sec. 4114(a), Pub. L. 101-360, 104 Stat. 517 (46 U.S.C. 3705 note), Sec. 164.03 also issued under 46 U.S.C. 8101.

2. Section 164.03 is revised to read as follows:

§ 164.03 Incorporation by reference.

(a) Certain materials are incorporated by reference into this part with the approval of the Director of the Federal Register under 5 U.S.C. 552(a) and 1 CFR part 51. To enforce any edition other than that specified in paragraph (b) of this section, the Coast Guard must publish notice of change in the Federal Register and the material must be available to the public. All approved material is on file at the Office of the Federal Register, 800 North Capitol Street NW, suite 700, Washington, DC, and at the U.S. Coast Guard, Marine Environmental Protection Division (G-MEP), room 2100, 2100 Second Street, SW, Washington, DC, 20563-0001, and is available from the sources identified in paragraph (b) of this section.

(b) The material approved for incorporation by reference in this part and the sections affected are as follows:

Radio Technical Commission for Maritime Services (RTCM)

P.O. Box 19087, Washington, DC 20036

Paper 12-78/DO-100, Minimum

Performance Standards, Loran C Receiving Equipment, 12/20/77, 164.13

International Maritime Organization (IMO)

4 Albert Embankment, London SE1 7SR, U.K.

IMO Resolution A-342(DC)

Recommendation on Performance Standards for Automatic Pilots, adopted November 12, 1973, 164.13

3. In § 164.13, paragraphs (d) and (e) are added to read as follows:

§ 164.13 Navigation underway: Tankers and ITBs.

(d) Except as provided in paragraph (a) of this section, a tanker of ITB certificated as a tankship, when underway in the navigable waters of the United States out to 3 nautical miles seaward from the territorial sea baseline, may engage the automatic pilot only if all of the following conditions exist:

(1) The operation and performance of the automatic pilot conforms with the standards recommended by the IMO in Resolution A-342(DC).

(2) A qualified helmsman is present at the helm and prepared at all times to assume manual control.

(3) The vessel is not operating in any of the following—

(i) The areas of the traffic separation schemes specified in subchapter P of this chapter (parts 160-167);

(ii) Those portions of a shipping safety fairway specified in part 166 of this chapter;

(iii) An anchorage ground specified in part 110 of this chapter; or

(iv) An area within one-half nautical mile of any U.S. shore.

(e) A tanker or ITB certificated as a tankship equipped with an integrated navigation system, and complying with paragraph (d)(2) of this section, may engage that system while in the areas described in paragraph (d)(3) (i) or (ii) of this section. The master must be able to provide, upon request, documentation showing that the integrated navigation system—

(1) Can maintain a predetermined trackline with a cross track error of less than 10 meters 95 percent of the time; and

(2) Provides continuous position data accurate to within 20 meters 95 percent of the time; and

(3) Has an immediate override control.

TITLE 46 CFR—(AMENDED)

PART 35—OPERATIONS

4. The authority citation for part 35 continues to read as follows:

Authority: 28 U.S.C. 1321(j); 46 U.S.C. 2308,
 2709, 5161; 49 U.S.C. App. 1904; E.O. 11726, 78
 FR 21263; 3 CFR, 1971-1975 Comp., p. 798;
 E.O. 12224, 45 FR 56801, 3 CFR, 1980 Comp., p.
 277; 49 CFR 1.48.

§ 35.20-48 [Removed]

5. Section 35.20-45 is removed.

Dated: September 24, 1992.

W.J. Edm.

Rear Admiral, U.S. Coast Guard, Chief, Office

of Navigation Safety and Waterway Services.

[FR Doc. 92-23760 Filed 10-1-92; 8:45 am]

ILLINOIS CODE 625-14-2

NPRM indicate the tanker masters already ensure that a licensed engineer is attending the machinery spaces when underway in the navigable waters of the United States. Consequently, their proposed rule would add no costs to the operation of most tankers.

The Coast Guard is aware of only one tanker certificated to operate with periodically unattended machinery spaces that does not leave the navigable waters of the United States. This tanker will be required to keep a licensed engineer on watch in the machinery spaces continually when underway. This tanker is already required by its certificate of inspection to operate with three licensed engineers. Consequently, this tanker already has a sufficient number of licensed engineers to comply with this rule without hiring additional personnel.

Similarly, there are seven U.S. flag ITBs certificated as tankships that may spend more time than tankers in the navigable waters of the U.S. out to 3 nautical miles. These vessels also are required to carry at least three licensed engineers and should be able to comply with this rule without hiring additional personnel.

Small Entities

Under the Regulatory Flexibility Act (5 U.S.C. 601 *et seq.*), the Coast Guard must consider whether this proposal will have a significant economic impact on a substantial number of small entities. "Small entities" include independently owned and operated small businesses that are not dominant in their field and that otherwise qualify as "small business concerns" under section 3 of the Small Business Act (15 U.S.C. 632). "Small entities" also include small not-for-profit organizations and small governmental jurisdictions. Because it expects the impact of this proposal to be minimal, the Coast Guard certifies under 5 U.S.C. 605(b) that this proposal, if adopted, will not have a significant economic impact on a substantial number of small entities.

Collection of Information

This proposal contains no collection of information requirements under the Paperwork Reduction Act (44 U.S.C. 3501 *et seq.*).

Federalism

The Coast Guard has analyzed this proposal in accordance with the principles and criteria contained in Executive Order 12612 and has determined that this proposal does not have sufficient federalism implications to warrant the preparation of a Federalism Assessment. This proposed

rulemaking prohibits the operation of tankers and affected ITBs in the navigable waters of the United States with unattended machinery spaces. It is a well settled principle that regulations concerning manning of commercial vessels in U.S. waters are an exclusive domain of the Coast Guard. Further, standardizing vessel manning requirements is necessary because vessels move from port to port in the national marketplace, and variation of manning requirements would be unreasonably burdensome. Therefore, if this rule becomes final, the Coast Guard intends it to preempt State action addressing the same subject matter.

Environment

The Coast Guard considered the environmental impact of this proposal and concluded that preparation of an environmental impact statement is not necessary. A preliminary Environmental Assessment is available in the docket for inspection or copying where indicated under "ADDRESSES."

This proposal is not expected to result in significant impact of the quality of the human environment, as defined by the National Environmental Policy Act. In evaluating the environmental impact of the proposed action, the following points were considered:

(1) Environmental benefits of requiring a licensed engineer in machinery spaces cannot be quantified in isolation, due to the complementary effects of other OPA 90-related regulatory changes. For example, regulations dealing with improved crew training, manning standards, vessel traffic control, and other OPA 90 initiatives should result in reduced casualties and reduced numbers and volumes of spills.

(2) The proposed action involves the navigable waters of the U.S. and should contribute toward the prevention of spills especially when vessels are maneuvering near shorelines and/or in congested waterways.

List of Subjects in 33 CFR Part 164

Incorporation by reference, Marine safety, Navigation (water), Reporting and recordkeeping requirements, Seamen, Security measures, Waterways.

For the reasons set out in the preamble, the Coast Guard proposes to amend 33 CFR part 164 as follows:

PART 164—NAVIGATION SAFETY REGULATIONS

1. The authority citation for part 164 is revised to read as follows:

Authority: 33 U.S.C. 1231; 46 U.S.C. 2103, 3703; 46 CFR 1.46, Sec. 164.13 also issued

under 46 U.S.C. 8502, 8503, sec. 4114(a), Pub. L. 101-383, 304 Stat. 517 (46 U.S.C. 3703 note). Sec. 164.61 also issued under 46 U.S.C. 8101.

2. Section 164.13 is added to read as follows:

§ 164.13 Navigation underway: Tankers and ITBs.

(a) As used in this section—

Integrated tug barge or ITB means a combination of a pushing vessel and vessel being pushed ahead which are rigidly connected in a composite unit and are required by rule 24(b) of the International Regulations for Preventing Collisions at Sea, 1972 (72 COLREGS) (Appendix A to part 81 of this chapter) to exhibit the lights prescribed in rule 23 for a "Power Driven Vessel Underway."

Tanker means a self-propelled tank vessel constructed or adapted primarily to carry oil or hazardous material in bulk in the cargo spaces.

(b) All tankers, and ITBs certificated to operate as a tankship, underway in the navigable waters of the United States out to 3 nautical miles seaward from the territorial sea baseline, must have an adequate engineering watch, including a licensed engineer, physically present in the machinery spaces such that the watch is able to monitor the propulsion system, communicate with the bridge, and implement manual control measures immediately when necessary.

Dated: September 24, 1992.

W.J. Eckers,

Rear Admiral, U.S. Coast Guard, Chief, Office of Navigation Safety and Waterway Services.

[FR Doc. 92-23737 Filed 10-1-92; 8:45 am]

BILLING CODE 4910-14-01

33 CFR Part 164

[CGD 91-222]

RIN 2115-AE03

Second Officer on the Bridge

AGENCY: Coast Guard, DOT.

ACTION: Notice of proposed rulemaking.

SUMMARY: The Oil Pollution Act of 1990 (OPA 90) requires the Coast Guard to designate U.S. waters where a second licensed officer must be on the bridge of a coastwise seagoing tanker over 1,600 gross tons. Under the Ports and Waterways Safety Act, the Coast Guard also is proposing to require the second officer on foreign flag tankers over 1,600 gross tons and U.S. registered tankers over 1,600 gross tons. The majority of tanker casualties are a result of personnel error. This rule would increase protection for U.S. shores and

adjacent waters by ensuring that an officer other than the required pilot is available to minimize the risk of casualty in conditions that create a need for navigational care.

DATE: Comments must be received on or before December 1, 1992.

ADDRESSES: Comments may be mailed to the Executive Secretary, Marine Safety Council (C-LRA/3406) (CGD 91-222), U.S. Coast Guard Headquarters, 2100 Second Street SW., Washington, DC 20583-0001, or may be delivered to room 3406 at the above address between 8 a.m. and 3 p.m., Monday through Friday, except Federal holidays. The telephone number is (202) 287-1477.

The Executive Secretary maintains the public docket for this rulemaking. Comments will become part of this docket and will be available for inspection or copying at Room 3406, U.S. Coast Guard Headquarters.

FOR FURTHER INFORMATION CONTACT: Lieutenant Commander Paul Jewell, Project Manager, Oil Pollution Act (OPA 90) Staff, (202) 287-6746, between 7 a.m. and 3 p.m. Monday through Friday, except Federal holidays.

SUPPLEMENTARY INFORMATION:

Request for Comments

The Coast Guard encourages interested persons to participate in this rulemaking by submitting written data, views, or arguments. Persons submitting comments should include their names and addresses, identify this rulemaking (CGD 91-222) and the specific section of this proposal to which each comment applies, and give a reason for each comment. Persons wanting acknowledgement of receipt of comments should enclose a stamped, self-addressed postcard or envelope.

The Coast Guard will consider all comments received during the comment period. It may change the proposal in view of the comments.

The Coast Guard plans no public hearing. Persons may request a public hearing by writing to the Marine Safety Council at the address under "ADDRESSES." If it determines that the opportunity for oral presentations will aid this rulemaking, the Coast Guard will hold a public hearing at a time and place announced by a later notice in the Federal Register.

Drafting Information

The principal persons involved in drafting this document are Lieutenant Commander Paul Jewell, Project Manager, and Joan Tilghman, Project Counsel, OPA 90 Staff.

Related Rulemakings

This rulemaking is a companion rulemaking to "Unattended Machinery Spaces" (CGD 91-203) and "Use of Automatic Pilot: Area Restrictions and Performance Requirements" (CGD 91-204). Those proposed rules are published elsewhere in this issue of the Federal Register. If these three proposed rules are adopted, they will be combined in a new section, 33 CFR 164.13 "Navigation underway: Tankers and ITBs." In CGD 91-203, proposed paragraph (a) of new § 164.13 defines "tanker" as a self-propelled tank vessel constructed or adapted primarily to carry oil or hazardous material in bulk in the cargo spaces, and "integrated tug barge" or "ITB" as a combination of a pushing vessel and a vessel being pushed ahead which are rigidly connected in a composite unit and are required by rule 24(b) of the International Regulations for Preventing Collisions at Sea, 1972 (72 COLREGS) (App. A to 33 CFR part 81) to exhibit the lights prescribed in rule 23 for a "Power Driven Vessel Underway." In CGD 91-203, proposed paragraph (b) of new § 164.13 requires the machinery spaces of these vessels to be attended when underway in the navigable waters of the United States. In this rulemaking (CGD 91-222), proposed paragraph (c), designates all internal waters of the United States as waters where seagoing tankers of 1,600 gross tons or more will be required to navigate with at least two licensed officers on the bridge. In CGD 91-204, proposed paragraphs (d) and (e) of new § 164.13 will establish restrictions and exemptions for the use of auto pilots in U.S. navigable waters.

Background and Purpose

To reduce the risk of a casualty, 46 U.S.C. 8502(h), as added by section 4118(b) of OPA 90, directs the Secretary to designate U.S. waters where a second officer must be on the bridge of coastwise seagoing tankers over 1,600 gross tons. Under the statute, the second licensed officer is in addition to a required Federal pilot.

The statutory second officer requirement applies to coastwise seagoing tankers over 1,600 gross tons. "Tanker" is defined in 46 U.S.C. 2101 as a "self-propelled tank vessel constructed or adapted primarily to carry oil or hazardous material in bulk in the cargo spaces." Tank barges are not included under section 4118(b) because they are not "self-propelled" vessels.

By framing the second officer requirement as an amendment to 46 U.S.C. 8502, Congress chose not to capture foreign flag tankers or U.S. tankers sailing on registry within the

scope of section 4118(b) of OPA 90. This may have been because most States already require those tankers to board a pilot in State pilotage waters. Further, 33 U.S.C. 1228 requires a vessel, while underway in U.S. navigable waters, to have at least one licensed deck officer on the navigation bridge who is capable of clearly understanding English. The effect of these two conditions would seem to be that a foreign flag tanker will have two licensed officers (a State pilot and an English-speaking officer) on the bridge while the vessel is transiting most internal waters of the United States. In practice, however, this may not be the case.

In fifteen States, a foreign flag or U.S. registered vessel is required only to pay a pilotage fee in the States' pilotage waters; there is no requirement that a State pilot actually board the vessel. On the other hand, coastwise seagoing vessels not sailing on registry are required to carry a pilot whenever these vessels are in the navigable waters of the U.S.

If coastwise seagoing tankers were the only tankers subject to this second officer rule, differences in State and Federal rules would subject coastwise seagoing tankers to more stringent navigational requirements than foreign flag tankers. U.S. registered tankers, and U.S. tankers operating exclusively on the Great Lakes or a Lakes, Bays, and Sounds route. More importantly, these disparate requirements mean that the marine environment is subject to a risk of casualty which Congress has found unacceptable for a class of vessels, (i.e., coastwise seagoing tankers), whose officers are more likely to be familiar with the waters being traversed than are the officers of foreign flag tankers or U.S. tankers sailing on registry.

Although the Coast Guard cannot apply a second officer rule to foreign flag tankers and U.S. tankers sailing on registry under 46 U.S.C. 8502, as amended, the Coast Guard is proposing to resolve the disparity under section 12 of the Ports and Waterways Safety Act (33 U.S.C. 1231). Therefore, under the authority of these two provisions, all seagoing tankers of 1,600 gross tons or more, when navigating in the internal waters of the United States, will be required to comply with the rule.

The Coast Guard does not intend to include tankers that operate solely on the Great Lakes or are limited to Lakes, Bays, and Sounds routes. These tankers (presently two on the Great Lakes and three in Long Island Sound) operate repeatedly on the same limited routes, and therefore their licensed deck officers are thoroughly familiar with the

routes they transit. In addition these tankers are small (from 1,600 gross tons to 3,853 gross tons), maneuverable, and have shallow drafts. Because they are small, they carry less cargo than larger ocean going tankers. Consequently, they are able to navigate the internal waters of the U.S. with less risk than the larger coastwise seagoing and international trade tankers. Requiring a second officer on the bridge of these vessels would have minimal impact on their safe operation and, because increased manning would be required whenever the vessels are underway, would have a disproportionate adverse effect on the cost of operating these vessels.

The Coast Guard considered a number of approaches to implement 46 U.S.C. 8502(h) as alternatives to the approach proposed. (To take no action would let stand a status quo which Congress has found unacceptable.) One was to require an officer in addition to the required Federal pilot on all U.S. coastwise seagoing tankers in all U.S. waters. Although this approach creates a single standard which would facilitate both enforcement and compliance, it subjects U.S. coastwise seagoing tankers to more stringent navigational requirements than foreign tankers or U.S. tankers sailing on registry.

Another approach was to delegate to District Commanders the authority to designate those areas in their District where a tanker subject to 46 U.S.C. 8502(h) must have a second officer. This approach recognizes that District Commanders have a special knowledge of ports and the surrounding environments in their district. On the other hand, it also creates a high potential for inconsistency from port to port, complicating both enforcement and compliance.

Discussion of Proposed Amendments

In this rulemaking, new paragraph (c) would designate all internal waters of the United States as waters where seagoing tankers of 1,600 gross tons or more will be required to navigate with at least two licensed officers on the bridge. Because part 164 only applies to vessels of 1,600 gross tons or more, specific language discussing the size applicability is not included in the new section.

Because internal waters are generally congested, shallow, and hazardous, vessels must take an extra measure of caution when navigating these waters. Most mariners and Coast Guard personnel know the location of "internal waters," which are defined in 33 CFR 2.05-20 as the waters shoreward of the territorial sea baseline. Consequently, this proposed rule should cause little or

no difficulty for those who must comply with or enforce the rule.

Not only does this proposal recognize that tankers over 1,600 gross tons must navigate in internal U.S. waters with an extra measure of caution; but it also gives mariners a rule that facilitates compliance, decreases the risk of tanker casualties in internal waters, and minimizes inconsistencies in rules governing foreign flag and U.S. tanker navigation safety.

The Coast Guard requests comments on this proposed rule, the merits of each approach presented in this notice, and is particularly interested in comments regarding the waters where this rule should apply.

Regulatory Evaluation

This proposal is not major under Executive Order 12291 and not significant under the Department of Transportation Regulatory Policies and Procedures (44 FR 11040; February 26, 1979). The Coast Guard expects the economic impact of this proposal to be so minimal that a full Regulatory Evaluation is unnecessary.

The overall potential benefit of these proposed rules is that they will provide increased protection from oil spills for U.S. shores and adjacent waters. The National Transportation Safety Board found that the T/V EOXON VALDEZ grounding was caused primarily by an error of the sole licensed deck officer on the navigational bridge. Coast Guard casualty data indicates that in 121 tank ship groundings or collisions which occurred in the internal waters of the U.S. in 1989 and 1990, personnel error was cited as the primary cause. For tankers, the additional precaution of a second licensed officer should reduce the risk of casualties caused by personnel error and, therefore, the occurrence of oil spills.

This approach requires tanker crews to provide increased protection for U.S. shores and adjacent waters. Requiring two licensed officers on the bridge of tankers reduces the likelihood that a serious navigational error will occur or go unnoticed.

The potential costs of these rules depend on the individual tanker's route. If every owner of a coastwise seagoing tanker over 1,600 gross tons finds it necessary to hire two additional third mates to comply with this rule, the approximate total annual cost would be about \$12.2 million (worst case). That total cost assumes an annual wage rate for a licensed third mate of \$42,000. However, the Coast Guard does not expect that a cost of this magnitude will be required. The actual cost of this rule

is expected to be less than \$1 million annually.

Tankers must comply with this rule only when the vessel is navigating in the internal waters of the United States. During the course of a voyage, seagoing tankers spend only a limited time in these internal waters—generally less than 4 hours. A review of the general orders issued by most tanker companies and interviews with licensed tanker officers reveal that a second licensed officer is on the bridge when the vessel is transiting most internal waters.

On voyages through Prince William Sound, Puget Sound, and the Chesapeake Bay, a second licensed officer will be required on the bridge for transits which may take up to 8 hours. However, a literature review and interviews with tanker officers indicate that without hiring additional personnel, U.S. tankers that routinely transit those areas sail with a sufficient number of licensed mates to comply with this rule. United States tanker owners may incur some overtime costs, but these costs should be minimal. The number of licensed crew members should be sufficient to avoid most overtime.

Foreign tanker crews already must have an English-speaking licensed deck officer on the bridge when in U.S. waters. When in most State pilotage waters, a foreign tanker also must navigate with a State pilot. Consequently, for foreign flag vessels, this rule may add costs only in internal waters that are not State pilotage waters (most notably the Strait of Juan de Fuca). In all but 15 States, foreign and U.S. registered tankers transiting State pilotage waters are required to carry a State pilot. In those 15 States, a tanker owner or operator must pay all, or a portion, of a pilotage fee irrespective of whether a pilot boards. In practice, virtually all of these tankers actually employ a pilot. Therefore, this rule should result in a minimal increase in costs to foreign and U.S. registered tankers.

The Coast Guard encourages public comment regarding any potential compliance cost which the Coast Guard has not anticipated.

Small Entities

Under the Regulatory Flexibility Act (5 U.S.C. 601 et seq.), the Coast Guard must consider whether this proposal will have a significant economic impact on a substantial number of small entities. "Small entities" include independently owned and operated small businesses that are not dominant in their field and that otherwise qualify as "small business concerns" under section 3 of

the Small Business Act (15 U.S.C. 632). "Small entities" also include small not-for-profit organizations and small governmental jurisdictions. Because it expects the impact of this proposal to be minimal, the Coast Guard certifies under 5 U.S.C. 605(b) that this proposal, if adopted, will not have a significant economic impact on a substantial number of small entities.

Collection of Information

This proposal contains no collection of information requirements under the Paperwork Reduction Act (44 U.S.C. 3501 et seq.).

Federalism

The Coast Guard has analyzed this proposal in accordance with the principles and criteria contained in Executive Order 12812 and has determined that this proposal does not have sufficient federalism implications to warrant the preparation of a Federalism Assessment. This proposed rule would require a second licensed officer on the bridge of all seagoing tankers of 1,600 gross tons or more transiting the internal waters of the United States, irrespective of the vessel's flag status. Generally, for foreign flag vessels and United States vessels sailing on registry in U.S. internal waters, States set pilotage requirements, and the Federal government may act only when the State has not exercised its authority. Once a State establishes a pilotage requirement for foreign flag and U.S. vessels sailing on registry, any Federal pilotage requirement is terminated. This proposed rule does not alter the State-Federal relationship regarding pilotage requirements, and does not preempt the States authority to establish a requirement for a State pilot under 46 U.S.C. 8501.

For manning requirements other than pilotage, it is a well-settled principle that regulations concerning manning of U.S. commercial vessels are an exclusive domain of the Coast Guard. Further, standardizing vessel manning requirements is necessary because vessels move from port to port in the national marketplace, and variation of manning requirements would unreasonably burden vessel owners and operators. Therefore, if this rule becomes final, the Coast Guard intends it to preempt State action addressing the same subject matter.

Environment

The Coast Guard considered the environmental impact of this proposal and concluded that preparation of an environmental impact statement is not

necessary. An Environmental Assessment (EA) is available in the docket for inspection or copying where indicated under "ADDRESSES." The EA discusses the environmental consequences of the proposed actions and alternatives, including a no-action alternative. This proposed action is not expected to result in significant impact on the quality of the human environment, as defined by the National Environmental Policy Act.

List of Subjects in 33 CFR Part 164

Incorporation by reference, Marine safety, Navigation (water), Reporting and recordkeeping requirements, Seamen, Security measures, Waterways.

For the reasons set out in the preamble, the Coast Guard proposes to amend 33 CFR part 164 as follows:

PART 164—NAVIGATION SAFETY REGULATIONS

1. The authority citation for part 164 is revised to read as follows:

Authority: 33 U.S.C. 1231; 46 U.S.C. 2103, 3703; 46 CFR 1.44. Sec. 164.13 also issued under 46 U.S.C. 8502, 8503; sec. 4144(a), Pub. L. 101-590, 104 Stat. 517 (46 U.S.C. 3703 note). Sec. 164.61 also issued under 46 U.S.C. 6101.

2. In § 164.13, paragraph (c) is added to read as follows:

§ 164.13 Navigation underway: Tankers and ITBs.

(c) All tankers, when underway in the internal waters of the United States as defined in § 2.05-20 of this chapter, except those operating with a certificate of inspection endorsed only for Great Lakes service or only for Lakes, Bays, and Sounds service, must navigate with at least two licensed officers on the bridge. One of those licensed officers may be a Federal or State licensed pilot.

Dated: September 24, 1992.

W.J. Eckert,

Rear Admiral, U.S. Coast Guard, Chief, Office of Navigation Safety and Waterway Services. [FR Doc. 92-23736 Filed 10-1-92; 8:45 am]

BILLING CODE 4910-14-M

33 CFR Part 164

46 CFR Part 35

[CGD 91-204]

RIN 2115-AE00

Use of Automatic Pilot: Area Restrictions and Performance Requirements

AGENCY: Coast Guard, DOT.

ACTION: Supplemental notice of proposed rulemaking.

SUMMARY: On January 6, 1992, the Coast Guard published a notice of proposed rulemaking that would have allowed tank vessels to use automatic pilots in certain areas within the navigable waters of the U.S. provided that the automatic pilot met certain standards and that a qualified helmsman was present. This supplemental notice of proposed rulemaking revises the January 6 proposal by changing the applicability provisions, allowing highly sophisticated systems to be used in some areas, and deleting Regulated Navigation Areas from the list of Areas where automatic pilots must not be used. This proposed rule should promote the safe operation of tankers and integrated tug barge combinations in U.S. waters.

DATES: Comments must be received on or before December 1, 1992.

ADDRESSES: Comments may be mailed to the Executive Secretary, Marine Safety Council (G-LRA/3406) [CGD 91-204], U.S. Coast Guard Headquarters, 2100 Second Street SW., Washington, DC 20593-0001, or may be delivered to room 3406 at the above address between 8 a.m. and 3 p.m., Monday through Friday, except Federal holidays. The telephone number is (202) 267-1477.

The Executive Secretary maintaining the public docket for this rulemaking. Comments will become part of this docket and will be available for inspection and copying at room 3406, U.S. Coast Guard Headquarters. A copy of the material listed in "Incorporation by Reference" of this preamble is available for inspection at room B-615, U.S. Coast Guard Headquarters.

FOR FURTHER INFORMATION CONTACT: Lieutenant Commander Paul Jewell, Project Manager, Oil Pollution Act (OPA 90) Staff, (202) 267-6746, between 7 a.m. and 3:30 p.m., Monday through Friday, except Federal holidays.

SUPPLEMENTARY INFORMATION:

Request for Comments

The Coast Guard encourages interested persons to participate in this rulemaking by submitting written data, views, or arguments. Persons submitting comments should include their names and addresses, identify this rulemaking (CGD 91-204) and the specific section of this proposal to which each comment applies, and give the reason for each comment. Persons wanting acknowledgment of receipt of comments should enclose a stamped, self-addressed postcard or envelope.

DEPARTMENT OF TRANSPORTATION

Coast Guard

33 CFR Part 164

46 CFR Part 35

CGD 91-203

RIN 2115-AE12

Unattended Machinery Spaces:
Operating Requirements

AGENCY: Coast Guard, DOT.

ACTION: Notice of proposed rulemaking.

SUMMARY: The Coast Guard proposes to implement a provision of the Oil Pollution Act of 1990 (OPA 90) by defining the conditions under which certain tank vessels may operate with unattended machinery spaces in U.S. navigable waters. This proposed rulemaking will promote the safe operations of tank vessels with unattended machinery spaces in U.S. waters.

DATES: Comments must be received on or before June 8, 1992.

ADDRESSES: Comments may be mailed to the Executive Secretary, Marine Safety Council (G-LRA-2/3406) (CGD 91-203), U.S. Coast Guard Headquarters, 2100 Second Street SW., Washington, DC 20593-0001, or may be delivered to room 3406 at the above address between 8 a.m. and 3 p.m., Monday through Friday, except federal holidays. The telephone number is (202) 287-1477. The Executive Secretary maintains the public docket for this rulemaking. Comments will become part of this docket and will be available for inspection or copying at room 3406, U.S. Coast Guard Headquarters.

FOR FURTHER INFORMATION CONTACT: Lieutenant Commander Paul Jewell, Project Manager, Oil Pollution Act (OPA 90) Staff (C-MS-1), (202) 287-6746.

SUPPLEMENTARY INFORMATION:**Request for Comments**

The Coast Guard encourages interested persons to participate in this rulemaking by submitting written data, views, or arguments. Persons submitting comments should include their names and addresses, identify this rulemaking (CGD 91-203) and the specific section of this proposal to which each comment applies, and give the reason for each comment. Persons wanting acknowledgement of receipt of comments should enclose a stamped, self-addressed postcard or envelope. The Coast Guard will consider all comments received during the comment period.

The Coast Guard plans no public hearing. Persons may request a public hearing by writing to the Executive Secretary, Marine Safety Council at the address under "ADDRESSES." If the Coast Guard determines that oral presentations will aid this rulemaking, it will hold a public hearing at a time and place announced by a later notice in the Federal Register.

Drafting Information

The principal drafters of this document are Joan Tilghman, Project Counsel, Oil Pollution Act (OPA-90) Staff and Lieutenant Commander Paul Jewell, Project Manager.

Background and Purpose

In 1977, the Coast Guard proposed a rule to prohibit the use of automatic pilots, require that engine rooms be manned, and require the anchor detail be set in specific U.S. waters. The Coast Guard initiated this rulemaking in an attempt to resolve the problems associated with navigation in congested and confined waters. The resulting list of specified waters was confusing to mariners because it would have required mariners to learn and chart the new areas designated by the rule. Many objected to the 1977 proposal, and the Coast Guard withdrew it after determining that the rule would present an undue burden both to the mariner and the Coast Guard. Section 4114(a) of OPA 90 now requires the Coast Guard "to define the conditions under, and designate the waters upon, which tank vessels subject to section 3703 of title 46, United States Code may operate in the navigable waters with the autopilot engaged or with an unattended engine room." This section focuses on reducing the risk of tank vessel casualties resulting from operating with the autopilot engaged or with an unattended engine room. Regulations designating waters where tank vessels may operate with the automatic pilot engaged are the subject of a separate rulemaking.

Section 4114(a) of OPA 90 directs the Coast Guard to establish parameters for using automatic pilots and for operating with engine rooms unattended. The Coast Guard's earlier regulatory attempts may have unintentionally discouraged the evolution of advanced engineering systems by limiting their use in U.S. waters. The Coast Guard is now proposing an approach that recognizes the inherent safety features and technological advantages of properly functioning automated systems.

Discussion of Proposed Amendment

The Coast Guard proposes to add § 164.13 to 33 CFR part 164 to define the conditions under which a tank vessel may operate in the navigable waters of the United States with unattended machinery spaces. This proposed rule applies only to self-propelled tank vessels certified to operate with unattended machinery spaces. This proposed rule does not apply to tank barges.

Although section 4114(a) refers to "engine room," the phrase "machinery spaces" will be used in this rulemaking as an equivalent term because "machinery spaces" reflects current maritime practice and terminology. The International Convention for the Safety of Life at Sea, 1974 as amended (SOLAS), regulation 46, requires that vessels carry documentary evidence certifying that they are equipped to operate with periodically unattended machinery spaces. These documents are internationally recognized and accepted by maritime administrations. The term "machinery space" is defined in 46 CFR 30.10-42 as:

Any space that contains machinery and related equipment including Category A machinery spaces, propelling machinery, boilers, oil fill units, steam and internal combustion engines, generators and centralized electrical machinery, oil filling stations, refrigeration, stabilizing, ventilation, and air conditioning machinery, and similar spaces and trunks to such spaces.

SOLAS, chapter II-1, part A, provides a similar definition of "machinery spaces."

The Coast Guard is proposing to designate all navigable waters of the United States as areas where tank vessels meeting specified requirements may operate with unattended machinery spaces. In accordance with SOLAS recommendations, maritime flag administrations routinely certify properly equipped and maintained tank vessels as suitable to operate with automated systems. Automated systems have been used since 1960. A recent National Research Council Study (Crew Size and Maritime Safety, 1990) indicated that unattended machinery spaces have a "significant impact on combatting fatigue, boredom, and inattention." To ensure that these systems are reliable, the Coast Guard is proposing that tank vessels meet certain minimum conditions when navigating with unattended machinery spaces in U.S. navigable waters.

Coast Guard and international standards require that the safety of tank vessels with automated vital systems.

possessing documents attesting to their suitability for operation with periodically unattended machinery spaces, must be equivalent to that of vessels with vital systems under direct manual operator supervision (46 CFR part 62 and SOLAS, chapter II-1, part E). To be certified for operation with unattended machinery spaces, a tank vessel must meet special technical requirements relating to fire protection, protection against flooding, control of propulsion machinery from the navigating bridge, communication, alarm systems, safety systems, and other special requirements for machinery, boiler, and electrical installations. This proposal will allow tank vessels equipped with properly functioning automated equipment to take full advantage of proven and internationally accepted technology.

Part of this proposed rule will require tank vessels operating with unattended machinery spaces to make an entry in the logbook for the vessel, noting that the machinery spaces were inspected by a licensed engineer and are functioning properly. Consequently, the Coast Guard also proposes to amend 46 CFR 35.07-10 "Actions required to be logged" to reflect this additional logbook entry.

Regulatory Evaluation

The Coast Guard has determined that this proposal is not major under Executive Order 12291. For vessels operating on the navigable waters of the United States with unattended machinery spaces, the rules require that a licensed engineer inspect the automated systems to ensure the systems are functioning properly. This inspection may take a licensed engineer 15 minutes and will cost vessel owners approximately \$5.25 per visit to U.S. waters, based on a Coast Guard estimated hourly wage rate of \$22.00 for a U.S. third assistant engineer. The logbook entry required after this inspection will cost vessel owners an additional \$1.00 per visit if an able seaman earning \$15.00 per hour spends 4 minutes to make the entry. Machinery space inspections are routinely made before departing from port. Therefore, any additional cost will be incurred on the inbound voyage. Consequently, this proposal will not result in annual costs of \$100 million; will have no significant adverse effects on competition, employment, or other aspects of the economy; and will not result in a major increase in costs and prices. This proposal is not significant under the Department of Transportation Regulatory Policies and Procedures for Simplification Analysis and Review of Regulations (DOT Order 2100.5).

because its cost is expected to be minimal and it does not meet any of the criteria listed in paragraph 6(a)(2) of the Order.

Small Entities

Under the Regulatory Flexibility Act (5 U.S.C. 601 et seq.) the Coast Guard must consider whether this proposal will have a significant economic impact on a substantial number of small entities. "Small entities" include independently owned and operated small businesses that are not dominant in their field and that otherwise qualify as "small business concerns" under section 3 of the Small Business Act (15 U.S.C. 632). "Small entities" also include small not-for-profit organizations and small governmental jurisdictions. In view of the minimal cost of compliance for individual vessels, the Coast Guard certifies under 5 U.S.C. 605(b) that this proposal, if adopted, will not have a significant economic impact on a substantial number of small entities.

Collection of Information

This proposal requires an entry be made in the ship's logbook following inspection of the ship's machinery spaces. The Office of Management and Budget has previously approved the requirement to maintain a ship's log (OMB Control No. 2115-0071). The log entry required by this rule does not significantly increase the paperwork burden associated with maintaining a ship's log.

Federalism

The Coast Guard has analyzed this proposal in accordance with the principles and criteria contained in Executive Order 12612, and has determined that this proposal does not have sufficient federalism implications to warrant the preparation of a Federalism Assessment. This proposed rulemaking defines conditions under which a tank vessel may operate in the navigable waters of the United States with unattended machinery spaces. It is a well settled principle that regulations concerning manning of commercial vessels in U.S. waters are an exclusive domain of the Coast Guard. Further, standardizing vessel manning requirements is necessary because vessels move from port to port in the national marketplace, and variation of manning requirements would be unreasonably burdensome. Therefore, if this rule becomes final the Coast Guard intends it to preempt State action addressing the same subject matter.

Environment

The Coast Guard has considered the environmental impact of this proposal and concluded that, under section 2.B.2 of Commandant Instruction M19473.1B, this proposal is categorically excluded from further environmental documentation. This proposal is a procedural regulation which does not have any environmental impact. A Categorical Exclusion Determination is available in the docket for inspection or copying where indicated under "ADDRESSES".

List of Subjects

33 CFR Part 164

Marine safety, Navigation (water), Reporting and recordkeeping requirements, Waterways.

46 CFR Part 35

Cargo vessels, Marine safety, Navigation (water), Occupational safety and health, Reporting and recordkeeping requirements, Seamen.

For the reasons set out in the preamble, the Coast Guard proposes to amend 33 CFR part 164 and 46 CFR part 35 as follows:

TITLE 33—(AMENDED)

PART 164—(AMENDED)

1. The authority citation for part 164 is revised to read as follows:

Authority: Sec. 4114(a), Pub. L. 101-380, 104 Stat. 484 [33 U.S.C. 1223, 46 U.S.C. 3703]; 46 CFR 1.46(n).

Section 164.81 also issued under 46 U.S.C. 6101.

2. Section 164.13 is added to read as follows:

§ 164.13 Navigation underway: Unattended machinery spaces, tank vessels.

A tank vessel may operate in the navigable waters of the United States with unattended machinery spaces if all of the following conditions exist:

(a) The tank vessel is carrying an official document issued under the authority of the flag administration, which includes the following statement written in English: "Approved for periodically unattended machinery space operation."

(b) A licensed engineer, immediately prior to leaving the machinery spaces unattended, has inspected the machinery spaces to ensure that all systems, including alarm systems, are operating properly.

(1) Except for tank vessels navigating in the Great Lakes, this inspection must take place before getting underway in

the navigable waters of the United States or not more than 6 hours before the tank vessel enters the navigable waters of the United States.

(2) For tank vessels navigating on the Great Lakes with unattended machinery spaces, this inspection must take place before getting underway or no more than 6 hours prior to entering Snell Locks in Massena, New York.

(3) The inspection must be recorded in the vessel's logbook.

(c) A designated licensed engineer is on call to attend the machinery spaces at the direction of the deck officer of the watch.

(d) No alarm condition or fault in a vital system requiring a member of the

engine department to take corrective action has occurred within the previous 12-hour period.

TITLE 46—(AMENDED)

PART 35—(AMENDED)

3. The authority citation for part 35 is revised to read as follows:

Authority: Sec. 4114(a), Pub. L. 101-360, 104 Stat. 484 (33 U.S.C. 1321(j)); 46 U.S.C. 3303, 3703, 8101; 46 U.S.C. App. 1804; E.O. 11736, 38 FR 21243, 3 CFR, 1971-1975 Comp., p. 793; E.O. 12254, 45 FR 58801, 3 CFR, 1980 Comp., p. 27; 46 CFR 1.64.

4. In § 35.07-10, paragraph (b)(10) is added to read as follows:

§ 35.07-10 Actions required to be logged—TB/ALL.

(10) Machinery spaces inspection. Before getting underway in the navigable waters of the United States or not more than 6 hours prior to entering the navigable waters of the United States with unattended machinery spaces. See 33 CFR 184.13.

Dated: February 21, 1992.

A.E. Henn,

Rear Admiral, U.S. Coast Guard, Chief, Office of Marine Safety, Security and Environmental Protection.

[FR Doc. 92-8030 Filed 4-9-92; 8:45 am]
BILLING CODE 4910-16-25

DEPARTMENT OF TRANSPORTATION

Coast Guard

33 CFR Part 164

[CGD 91-203]

RIN 2115-AE12

Unattended Machinery Spaces:
Operating Requirements

AGENCY: Coast Guard, DOT.

ACTION: Supplemental notice of
proposed rulemaking.

SUMMARY: On April 9, 1992, the Coast Guard published a notice of proposed rulemaking that would have allowed highly automated tank vessels to navigate with unattended machinery spaces in the navigable waters of the United States. This supplemental notice of proposed rulemaking completely revises the April 9 proposal by requiring the machinery spaces of integrated tug/barge combinations and tankers over 1,600 gross tons to be attended when underway in the navigable waters of the United States. Requiring a licensed engineer on watch in the machinery spaces will ensure that faults in the engineering systems will be noticed and addressed without delay. Consequently, this proposed rule should decrease the likelihood of casualties.

DATE: Comments must be received on or before December 1, 1992.

ADDRESSES: Comments may be mailed to the Executive Secretary, Marine Safety Council (G-LRA/3408) (CGD 91-203), U.S. Coast Guard Headquarters, 2100 Second Street SW, Washington, DC 20593-0001, or may be delivered to room 3406 at the above address between 8 a.m. and 3 p.m., Monday through Friday, except Federal holidays. The telephone number is (202) 267-1477.

The Executive Secretary maintains the public docket for this rulemaking. Comments will become part of this docket and will be available for inspection and copying at room 3406, U.S. Coast Guard Headquarters.

FOR FURTHER INFORMATION CONTACT: Lieutenant Commander Paul Jewell, Project Manager, Oil Pollution Act (OPA 90) Staff, (202) 267-6746, between 7 a.m. and 3:30 p.m., Monday through Friday, except Federal holidays.

SUPPLEMENTARY INFORMATION:

Request for Comments

The Coast Guard encourages interested persons to participate in this rulemaking by submitting written data, views, or arguments. Persons submitting comments should include their names and addresses. Identify this rulemaking

(CGD 91-203) and the specific section of this proposal to which each comment applies, and give the reason for each comment. Persons wanting acknowledgment of receipt of comments should enclose a stamped, self-addressed postcard or envelope.

The Coast Guard will consider all comments received during the comment period. It may change this proposal in view of the comments.

The Coast Guard plans no public hearing. Persons may request a public hearing by writing to the Marine Safety Council at the address under "ADDRESSES." If it determines that the opportunity for oral presentations will aid this rulemaking, the Coast Guard will hold a public hearing at a time and place announced by a later notice in the Federal Register.

Drafting Information

The principal persons involved in drafting this document are Lieutenant Commander Paul Jewell, Project Manager, and Joan Tilghman, Project Counsel, OPA 90 staff.

Related Rulemakings

This rulemaking is a companion rulemaking to "Second Officer on the Bridge" (CGD 91-222) and "Use of Automatic Pilot: Area Restrictions and Performance Requirements" (CGD 91-204). Those proposed rules are published elsewhere in this issue of the Federal Register. If these three proposed rules are adopted, they will be combined in a new section, 33 CFR 164.13 "Navigation Underway: Tankers and ITBs." In this rulemaking, proposed paragraph (a) of new § 164.13 defines "tanker" as a self propelled tank vessel constructed or adapted primarily to carry oil or hazardous material in bulk in the cargo spaces, and "integrated tug barge" or "ITB" as a combination of a pushing vessel and a vessel being pushed ahead which are rigidly connected in a composite unit and are required by rule 24(b) of the International Regulations for Preventing Collisions at Sea, 1972 (72 COLREGS) (App. A to 33 CFR part 61) to exhibit the lights prescribed in rule 23 for a "Power Driven Vessel Underway." In this rulemaking (CGD 91-203), proposed paragraph (b) of new § 164.13 requires the machinery spaces of these vessels to be attended when underway in the navigable waters of the United States. In CGD 91-222, proposed paragraph (c), designates all internal waters of the United States as waters where seagoing tankers of 1,600 gross tons or more will be required to navigate with at least two licensed officers on the bridge. In CGD 91-204, proposed paragraphs (d) and (e) of new § 164.13

will establish restrictions and exemptions for the use of auto pilots in U.S. navigable waters.

Background and Purpose

Section 4114(a) of OPA 90 requires the Coast Guard to define the conditions under which, and designate the waters upon which, tank vessels subject to 46 U.S.C. 3703 may operate in U.S. navigable waters with an unattended engine room. A "tank vessel" to which 46 U.S.C. 3703 applies is defined in 46 U.S.C. 2101(30) as—

A vessel that is constructed or adapted to carry, or that carries, oil or hazardous material in bulk as cargo or cargo residue, and that—

- (A) is a vessel of the United States;
- (B) operates on the navigable waters of the United States; or
- (C) transfers oil or hazardous material in a port or place subject to the jurisdiction of the United States.

Section 4114(a) specifies that this rule apply only on the navigable waters of the United States. As defined in 33 U.S.C. 2701, navigable waters are the waters of the United States, including the territorial sea. This definition does not encompass the waters of the Exclusive Economic Zone (EEZ). Further, under 46 U.S.C. 3702 and 3703, foreign vessels on innocent passage on the navigable waters of the United States are exempt from rules issued under section 4114(a).

On April 9, 1992, the Coast Guard published a notice of proposed rulemaking (NPRM) in the Federal Register (57 FR 12378) entitled "Unattended Machinery Spaces: Operating Requirements." In the NPRM the Coast Guard proposed to allow tank vessels with automated vital systems, possessing documents attesting to their suitability for operation with periodically unattended machinery spaces and meeting other conditions, to operate with unattended machinery spaces in the navigable waters of the United States. Almost all of the 159 comments objected to the NPRM. Although a public hearing was requested, one was not held because of the Coast Guard's decision to revise the proposed rule.

Discussion of Comments and Changes

Most of the comments had similar objections to the proposed rule. Generally, the comments stated that engineering systems are subject to the greatest stresses when the vessel is maneuvering in near shore waters, and consequently, these systems are most likely to malfunction when the vessel is maneuvering. An engineering casualty

on a tanker in near shore waters increases the risk that a spill will occur because these waters are generally shallow and congested, giving little time for vessel operators to address an error or emergency before the vessel is endangered. Many comments stated that even highly sophisticated automated systems are not likely to detect all engine faults in sufficient time for the engineer to correct the problem if the engineer is not immediately available to respond to the alarm.

A number of the comments cited occasions of engineering system failures when vessels were maneuvering in near shore waters. These comments noted that serious incidents were averted because the machinery spaces were manned during these incidents and because the engineer could quickly diagnose and correct these failures.

Most comments recommended that a tanker's machinery spaces be manned constantly when the vessel is in the navigable waters of the United States. Many comments expressed concern that the proposed rule would encourage shipping companies to reduce costs by pressuring masters to operate without a licensed engineer in the machinery spaces, resulting in an increased risk of vessel casualties and oil spills.

Several comments stated that tanker masters and chief engineers already ensure that the machinery spaces are manned when the vessel is underway in the navigable waters of the United States. These comments suggested that the Coast Guard codify this practice by requiring a licensed engineer to be on watch when a tanker is underway in the navigable waters of the United States.

After considering these comments, the Coast Guard decided to revise the original proposal. The public response to the NPRM indicates that even tankers certified to operate with periodically unattended machinery spaces normally operate with a licensed engineer monitoring the automated systems in the machinery spaces when the vessel is underway in the navigable waters of the United States. The good safety record of vessels certified to operate with periodically unattended machinery spaces may reflect this practice.

The Coast Guard sees merit in the points made by the comments and has determined that a more conservative approach than proposed in the NPRM would better serve the public interest. Therefore, the Coast Guard is now proposing that integrated tug and tanker barge combinations certificated as tankships and tankers of 1,600 gross tons or more have a licensed engineer attending the machinery spaces when the vessel is underway in the navigable

waters of the United States out to 3 nautical miles seaward from the territorial sea baseline.

This approach is consistent with International Maritime Organization (IMO) guidance contained in Resolution 2 adopted by the International Conference on Training and Certification of Seafarers, 1978 (Operational Guidance for Engineer Officers in Charge of an Engineering Watch). Paragraph 22 of the Annex to the resolution discusses "Navigation in Congested Waters" and states:

The engineer officer in charge of the watch should ensure that all machinery involved with the maneuvering of the ship can immediately be placed to manual modes of operation when notified that the ship is in congested waters. . . . Emergency steering and other auxiliary equipment should be ready for immediate operation.

There were only a few comments that agreed with the NPRM, and most of those suggested eliminating the proposed requirement for a licensed engineer to continually attend the machinery spaces if an alarm condition had occurred within the previous 12 hours. The Coast Guard is revising this proposed rule to require that the machinery spaces be continually attended when in the navigable waters of the U.S., irrespective of any previous alarm condition. To permit the machinery spaces to be unattended when there has been a recent alarm condition would be contrary to the present proposal.

One comment recommended that the applicability of the proposed rule be made explicitly clear because a definition of a tank vessel is not included in 33 CFR part 164 where the Coast Guard proposed to codify this rule.

OPA 90 states that this rule should apply to tank vessels subject to 46 U.S.C. 3703. These "tank vessels" include self-propelled ships and barges. However, as a practical matter this rule should not apply to tank barges because tank barges have neither propulsion machinery nor a separate crew. The Coast Guard has also adopted the position that tank vessels that carry oil as a secondary cargo should not be subject to this rule because they do not pose the same threat to the environment as tank vessels designed to carry oil as a primary cargo. The Coast Guard is proposing to narrow the applicability of this rule to tankers of 1,600 gross tons and more and ITBs certificated as a tankship on its Certificate of Inspection. The Coast Guard is proposing that this rule should apply to ITBs certificated as a tankship because ITBs are navigated in the same manner as a tanker and

ITBs pose a threat to the environment similar to tankers.

Under 33 CFR part 164, vessels which are less than 1,600 gross tons are excluded from the Navigation Safety regulations of that part. The Coast Guard's position is that it is also appropriate to exempt vessels less than 1,600 gross tons from this rulemaking. These vessels pose less of a safety risk than larger tankers because they have shallow drafts and are more maneuverable than larger tankers. The size and maneuverability of vessels less than 1,600 gross tons allows them to avoid navigational hazards more easily than larger tankers.

The Coast Guard is also proposing that this rule apply when in the navigable waters of the U.S. out to 3 nautical miles seaward from the territorial sea baseline. The Coast Guard is proposing to limit this rule to within 3 nautical miles of the baseline to clearly specify where this rule will apply. Because the U.S. has declared that the territorial sea extends to 12 nautical miles for some purposes and 3 nautical miles for others, the specific language in this proposed rule should resolve any question mariners may have about the waters where the rule applies and limit its application to nearshore waters.

One comment stated that vessels on the St. Lawrence Seaway should not be excluded from this rule.

The St. Lawrence Seaway Authority has already promulgated separate regulations in 33 CFR 401.35 designating certain portions of the St. Lawrence Seaway where propulsion machinery, including the main engine control station, must be attended.

Regulatory Evaluation

This proposal is not major under Executive Order 12291 and not significant under the Department of Transportation Regulatory Policies and Procedures for Simplification Analysis and Review of Regulations (44 FR 11040; February 26, 1979). The Coast Guard expects the economic impact of this proposal to be so minimal that a separate full Regulatory Evaluation is unnecessary.

This rule will primarily affect tankers that are certificated to operate with periodically unattended machinery spaces. Tankers and ITBs must comply with this proposed rule only when the vessel is underway in the navigable waters of the United States out to 3 nautical miles seaward from the territorial sea baseline. During the course of a voyage, most tankers spend only a limited time in these waters. The comments received to the original

NPRM indicate the tanker masters already assure that a licensed engineer is attending the machinery spaces when underway in the navigable waters of the United States. Consequently, their proposed rule would add no costs to the operation of most tankers.

The Coast Guard is aware of only one tanker certificated to operate with periodically unattended machinery spaces that does not leave the navigable waters of the United States. This tanker will be required to keep a licensed engineer on watch in the machinery spaces continually when underway. This tanker is already required by its certificate of inspection to operate with three licensed engineers. Consequently, this tanker already has a sufficient number of licensed engineers to comply with this rule without hiring additional personnel.

Similarly, there are seven U.S. flag ITBs certificated as tankships that may spend more time than tankers in the navigable waters of the U.S. out to 3 nautical miles. These vessels also are required to carry at least three licensed engineers and should be able to comply with this rule without hiring additional personnel.

Small Entities

Under the Regulatory Flexibility Act (5 U.S.C. 601 *et seq.*), the Coast Guard must consider whether this proposal will have a significant economic impact on a substantial number of small entities.

"Small entities" include independently owned and operated small businesses that are not dominant in their field and that otherwise qualify as "small business concerns" under section 3 of the Small Business Act (15 U.S.C. 632). "Small entities" also include small not-for-profit organizations and small governmental jurisdictions. Because it expects the impact of this proposal to be minimal, the Coast Guard certifies under 5 U.S.C. 605(b) that this proposal, if adopted, will not have a significant economic impact on a substantial number of small entities.

Collection of Information

This proposal contains no collection of information requirements under the Paperwork Reduction Act (44 U.S.C. 3501 *et seq.*).

Federalism

The Coast Guard has analyzed this proposal in accordance with the principles and criteria contained in Executive Order 12812 and has determined that this proposal does not have sufficient federalism implications to warrant the preparation of a Federalism Assessment. This proposed

rulemaking prohibits the operation of tankers and affected ITBs in the navigable waters of the United States with unattended machinery spaces. It is a well settled principle that regulations concerning manning of commercial vessels in U.S. waters are an exclusive domain of the Coast Guard. Further, standardizing vessel manning requirements is necessary because vessels move from port to port in the national marketplace, and variation of manning requirements would be unreasonably burdensome. Therefore, if this rule becomes final, the Coast Guard intends it to preempt State action addressing the same subject matter.

Environment

The Coast Guard considered the environmental impact of this proposal and concluded that preparation of an environmental impact statement is not necessary. A preliminary Environmental Assessment is available in the docket for inspection or copying where indicated under "ADDRESSES."

This proposal is not expected to result in significant impact of the quality of the human environment, as defined by the National Environmental Policy Act. In evaluating the environmental impact of the proposed action, the following points were considered:

(1) Environmental benefits of requiring a licensed engineer in machinery spaces cannot be quantified in isolation, due to the complementary effects of other OPA 90-related regulatory changes. For example, regulations dealing with improved crew training, manning standards, vessel traffic control, and other OPA 90 initiatives should result in reduced casualties and reduced numbers and volumes of spills;

(2) The proposed action involves the navigable waters of the U.S. and should contribute toward the prevention of spills especially when vessels are maneuvering near shorelines and/or in congested waterways.

List of Subjects in 33 CFR Part 164

Incorporation by reference, Marine safety, Navigation (water), Reporting and recordkeeping requirements, Seamen, Security measures, Waterways.

For the reasons set out in the preamble, the Coast Guard proposes to amend 33 CFR part 164 as follows:

PART 164—NAVIGATION SAFETY REGULATIONS

1. The authority citation for part 164 is revised to read as follows:

Authority: 33 U.S.C. 1231; 46 U.S.C. 2103, 3703; 46 CFR 1.46. Sec. 164.13 also issued

under 46 U.S.C. 8502, 8503; sec. 4114(e), Pub. L. 101-380, 104 Stat. 517 (46 U.S.C. 3703 note). Sec. 164.61 also issued under 46 U.S.C. 6101.

2. Section 164.13 is added to read as follows:

§ 164.13 Navigation underway: Tankers and ITBs.

(a) As used in this section—

Integrated tug barge or *ITB* means a combination of a pushing vessel and vessel being pushed ahead which are rigidly connected in a composite unit and are required by rule 24(b) of the International Regulations for Preventing Collisions at Sea, 1972 (72 COLREGS) (Appendix A to part 81 of this chapter) to exhibit the lights prescribed in rule 23 for a "Power Driven Vessel Underway."

Tanker means a self-propelled tank vessel constructed or adapted primarily to carry oil or hazardous material in bulk in the cargo spaces.

(b) All tankers, and ITBs certificated to operate as a tankship, underway in the navigable waters of the United States out to 3 nautical miles seaward from the territorial sea baseline, must have an adequate engineering watch, including a licensed engineer, physically present in the machinery spaces such that the watch is able to monitor the propulsion system, communicate with the bridge, and implement manual control measures immediately when necessary.

Dated: September 24, 1992.

W.J. Eckers.

Rear Admiral, U.S. Coast Guard, Chief, Office of Navigation Safety and Waterway Services.

(FR Doc. 92-23737 Filed 10-1-92; 8:45 am)

BELLING CODE 4910-10-02

33 CFR Part 164

[CGD 91-222]

RIN 2115-AE03

Second Officer on the Bridge

AGENCY: Coast Guard, DOT.

ACTION: Notice of proposed rulemaking.

SUMMARY: The Oil Pollution Act of 1990 (OPA 90) requires the Coast Guard to designate U.S. waters where a second licensed officer must be on the bridge of a coastwise seagoing tanker over 1,600 gross tons. Under the Ports and Waterways Safety Act, the Coast Guard also is proposing to require the second officer on foreign flag tankers over 1,600 gross tons and U.S. registered tankers over 1,600 gross tons. The majority of tanker casualties are a result of personnel error. This rule would increase protection for U.S. shores and

DEPARTMENT OF TRANSPORTATION

Coast Guard

46 CFR Part 36

(CGD 91-204)

RIN 2115-AE90

Use of Automatic Pilot: Area Restrictions and Performance Requirements

AGENCY: Coast Guard, DOT.

ACTION: Notice of proposed rulemaking.

SUMMARY: The Coast Guard proposes to implement a provision of section 4114(a) of the Oil Pollution Act of 1990 (OPA 90), by defining the conditions under which, and designating the waters where, tank vessels may operate with the automatic pilot engaged. This proposed rulemaking will promote the safe operations of tank vessels in U.S. waters. Section 4114(a) also requires restrictions on operations of tank vessels with unattended machinery spaces. Regulations restricting operations with unattended machinery spaces are the subject of a separate rulemaking.

DATE: Comments must be received on or before March 6, 1992.

ADDRESSES: Comments may be mailed to the Executive Secretary, Marine Safety Council (G-LRA-273408) (CGD 91-204), U.S. Coast Guard Headquarters, 2100 Second Street SW., Washington, DC 20593-0001, or may be delivered to room 3408 at the above address between 8 a.m. and 3 p.m., Monday through Friday, except Federal holidays. The telephone number is (202) 267-1477. The Executive Secretary maintains the public docket for this rulemaking. Comments will become part of this docket and will be available for inspection or copying at room 3408, U.S. Coast Guard Headquarters. A copy of the material listed in "Incorporation by Reference" of this preamble is available for inspection at room B110, U.S. Coast Guard Headquarters.

FOR FURTHER INFORMATION CONTACT: LCDR Paul Jewell, Project Manager, Oil Pollution Act Office, United States Coast Guard Headquarters, 2100 Second Street SW., Washington, DC 20593-0001, (202) 267-6746.

SUPPLEMENTARY INFORMATION:

Request for Comments

The Coast Guard encourages interested persons to participate in this rulemaking by submitting written data, views, or arguments. Persons submitting comments should include their names and addresses, identify this rulemaking

(CGD 91-204) and the specific section of this proposal to which each comment applies, and give a reason for each comment. Persons wanting acknowledgment of receipt of comments should enclose a stamped, self-addressed postcard or envelope. The Coast Guard will consider all comments received during the comment period.

The Coast Guard plans no public hearing. Persons may request a public hearing by writing to the Marine Safety Council at the address under ADDRESSES. If the Coast Guard determines that oral presentations will aid this rulemaking, it will hold a public hearing at a time and place announced by a later notice in the Federal Register.

Drafting Information

The principal drafters of this document are Joan Tilghman, Project Counsel, and LCDR Paul Jewell, Project Manager.

Background and Purpose

Section 4114(a) of OPA 90 requires the Coast Guard to define the conditions under, and designate the waters upon, which tank vessels may operate in U.S. navigable waters with the automatic pilot engaged. "Tank vessels" to which 46 U.S.C. 3703 applies are defined in 46 U.S.C. 2101(30) as: any . . . vessel that is constructed or adapted to carry, or that carries, oil or hazardous material in bulk as cargo or cargo residue, and that—

- (A) Is a vessel of the United States;
- (B) Operates on the navigable waters of the United States; or
- (C) Transfers oil or hazardous material in a port or place subject to the jurisdiction of the United States."

Although unattended barges are considered tank vessels, this rule does not affect barges because they are not equipped with automatic pilots. Towing vessels, including any tug which is part of an integrated tug/barge combination, are not subject to this rule because these towing vessels are not constructed or adapted to carry oil in bulk as cargo. Section 4114 specifies that this rule apply only on the navigable waters of the U.S. Navigable waters as defined in 33 U.S.C. 2701 "means the waters of the United States, including the territorial sea." This definition does not encompass the waters of the Exclusive Economic Zone (EEZ). Additionally, under 46 U.S.C. 3702, "Foreign vessels on innocent passage on the navigable waters of the United States" are exempt from rules issued under the authority of 4114(a).

Among other things, the purpose of OPA 90 is to reduce the risk of the discharge of oil into the navigable

waters of the United States. Section 4114(a) focuses on reducing vessel casualties and marine pollution incidents by requiring the Secretary of Transportation to issue regulations defining the conditions under which, and designating the waters where, an automatic pilot may be used on tank vessels operating in U.S. waters.

In 1977, the Coast Guard proposed a rule to prohibit the use of automatic pilots, to require that machinery spaces be manned, and to require the anchor detail set in specific U.S. waters. The Coast Guard initiated this rulemaking in an attempt to resolve the problems associated with navigation in congested and confined waters. The resulting list of specified waters was confusing to mariners because they would have been required to learn and chart new areas where the rule applied. Many commenters objected to the 1977 proposal, and the Coast Guard withdrew it after further consideration because it was determined that the rule would present an undue burden both to the mariner and the Coast Guard.

Section 4114(a) now directs the Coast Guard to establish parameters for using automatic pilots and for operating with machinery spaces unattended. The Coast Guard is proposing an approach restricting the use of automatic pilots in waters that mariners already know require additional navigational care. Tank vessel watch officers and pilots can rely on their existing knowledge of these waters and will not need to learn or chart new areas where the automatic pilot rule applies. Regulations restricting operations with unattended machinery spaces are the subject of a separate rulemaking (USCG docket #91-203).

Discussion of Proposed Amendment

The Coast Guard proposes to establish minimum performance and operating standards for using automatic pilots in U.S. navigable waters. These rules will be in addition to requirements already imposed under 33 part 164. Navigating with the automatic pilot engaged will be permitted, except in the following waters designated in title 33, Code of Federal Regulations: Traffic separation schemes (33 CFR part 167), regulated navigation areas (33 CFR part 165), shipping safety fairways (33 CFR part 166), anchorage areas (33 CFR part 110), VTS areas (33 CFR part 161), and areas within one-half mile of shore. Tank vessels transiting those waters will be required to operate under manual control without the automatic pilot engaged.

This proposed rule permits masters of tank vessels to take advantage of

modern technology, consistent with the practice of good seamanship, but also will recognize that specific U.S. waters should be navigated with an extra measure of caution. Tank vessel watch officers and pilots are familiar with these waters because these waters are generally shown on nautical charts and are already subject to regulation. The Coast Guard proposes to designate those waters as waters where an automatic pilot cannot be engaged. This approach eliminates the need for mariners to learn and chart new areas where the automatic pilot rule applies.

In a separate action to implement other OPA 90 provisions, the Coast Guard is developing regulations to require towing vessel escorts for tankers in certain waters. If those regulations become final, the Coast Guard will consider including towing vessel escort waters as areas where the automatic pilot cannot be engaged.

Requiring a helmsman to steer a tank vessel manually in designated areas will ensure quick action on the orders of the licensed bridge officer to respond to situations which require immediate corrective action. This practice should result in the avoidance of certain types of navigational hazards, and should reduce the risk of maritime casualties in U.S. waters.

Under the proposed rule, where using the automatic pilot is permitted in U.S. navigable waters, its use must conform to certain technical standards specified and recommended by the International Maritime Organization (IMO). These IMO standards specify that automatic pilot equipment be able to provide reliable operation under prevailing conditions, be outfitted with course deviation and power failure alarms, and be capable of 3 second handover from one steering mode to another. The IMO standards govern the location, type, and adjustment features of the automatic pilot equipment. This proposed rule also specifies that a qualified helmsman must be present at the helm when a tank vessel is operating with the automatic pilot engaged.

Incorporation by Reference

The following material would be incorporated by reference in § 35.01-3: International Maritime Organization (IMO) Resolution A.342(X) adopted November 12, 1975. Copies of the material are available for inspection where indicated under "ADDRESSES." Copies of the material are available at the addresses in § 35.01-3.

Regulatory Evaluation

The Coast Guard has determined that this proposal is not major under

Executive Order 12281. There will be no cost to vessel owners in complying with this proposal because the rule will not require vessels to increase crew size or add equipment. This proposal will have no significant adverse effects on competition, employment, or other aspects of the economy, and it will not result in a major increase in costs and prices. This proposal is not significant under the Department of Transportation Regulatory Policies and Procedures for Simplification Analysis and Review of Regulations (Order 2100.5), because its cost is expected to be minimal and it does not meet any of the criteria listed in paragraph 6(a)(2) of the Order.

Small Entities

Under the Regulatory Flexibility Act (5 U.S.C. 601 *et seq.*) the Coast Guard must consider whether this proposal will have a significant economic impact on a substantial number of small entities. "Small entities" include independently owned and operated small businesses that are not dominant in their field and that otherwise qualify as "small business concerns" under section 3 of the Small Business Act (15 U.S.C. 632). "Small entities" also include small not-for-profit organizations and small governmental jurisdictions. Since there is no cost associated with this rule, the Coast Guard certifies under 5 U.S.C. 605(b) that this proposal, if adopted, will not have a significant economic impact on a substantial number of small entities.

Collection of Information

This proposal contains no collection of information requirements under the Paperwork Reduction Act (44 U.S.C. 3501 *et seq.*).

Federalism

The Coast Guard has analyzed this proposal in accordance with the principles and criteria contained in Executive Order 12612, and has determined that this proposal does not have sufficient federalism implications to warrant the preparation of a Federalism Assessment.

Environment

The Coast Guard has prepared a preliminary Environmental Assessment (EA) for this action, in accordance with the Council on Environmental Quality regulations (40 CFR parts 1500-1508) and Coast Guard policy (COMDTINST M16475.1B) implementing the procedural provisions of the National Environmental Policy Act (NEPA). The EA discusses the environmental consequences of the proposed action

and alternatives, including the no-action alternative. The preliminary EA is available in the docket. After receipt of all comments to this proposed rulemaking action and comments to the EA, a final decision on the need to draft an Environmental Impact Statement (EIS) will be made.

List of Subjects in 46 CFR Part 35

Cargo vessels, Marine safety, Navigation (water), Occupational safety and health, Reporting and recordkeeping requirements, Seamen.

For the reasons set out in the preamble, the Coast Guard proposes to amend 46 CFR part 35 as follows:

1. The authority citation for part 35 is revised to read as follows:

Authority: 33 U.S.C. 1221(j); 46 U.S.C. 3306, 3703, 6101; 46 U.S.C. App. 1804; Pub. L. 101-380 § 4114(a), Aug. 18, 1980, 104 Stat. 484; E.O. 11735, 36 FR 21243, 3 CFR, 1971-1975 Comp., p. 793; E.O. 12234, 45 FR 58801; 3 CFR, 1980 Comp., p. 277; 46 CFR 1.46.

2. Section 35.01-3 is revised to read as follows:

§ 35.01-3 Incorporation by reference.

(a) Certain material is incorporated by reference into this part with the approval of the Director of the Federal Register in accordance with 5 U.S.C. 552(a) and 1 CFR part 51. To enforce any edition other than that specified in paragraph (b) of this section, the Coast Guard must publish notice of change in the Federal Register and make the material available to the public. All approved material is on file at the Office of the Federal Register, 1100 L Street NW., Washington, DC, and at the U.S. Coast Guard, Marine Technical and Hazardous Materials Division (G-MTH), or at the Oil Pollution Act Staff (G-MS), 2100 Second Street SW., Washington, DC 20503-0001, and is available from the sources indicated in paragraph (b) of this section.

(b) The material approved for incorporation by reference in this part and the sections affected are:

American Society for Testing and Materials
1916 Race St., Philadelphia, PA 19103

ASTM D-63-80, Test Method for Flash Point by Pensky-Martens Closed Tester, 1980.
ASTM F1074-1980, Standard Specification for Flashlights on Vessels

35.25-10

35.25-30

International Maritime Organization (IMO)

4 Albert Embankment, London SE1 7SR, U.K.

IMO Resolution A.342(DX), Recommendation on Performance Standards for Automatic Pilots

National Fire Protection Standards (NFPA)

Battery March Park, Quincy, MA 02269

NFPA 308, Standard for the Control of Gas Hazards on Vessels to be Repaired, 1987

3. Section 35.20-45 is revised to read as follows:

§ 35.20-45 Use of automatic pilot—7/ALL.

(a) Tank vessels may engage the automatic pilot if all of the following conditions exist:

(1) The operation and performance of the automatic pilot conforms with the standards recommended by the IMO in Resolution A.342(DX) adopted November 12, 1973;

(2) An Able Seaman or Licensed Deck Officer is present at the helm, prepared at all times to assume manual control when instructed to do so by the deck officer of the watch; and

(3) The vessel is not operating in:

(i) The areas of the traffic separation schemes specified in 33 CFR part 167 which lie within U.S. navigable waters;

(ii) A regulated navigation area specified in 33 CFR part 165;

(iii) Those portions of a shipping safety fairway specified in 33 CFR part 166 which lie within U.S. navigable waters;

(iv) An anchorage area specified in 33 CFR part 110;

(v) A Vessel Traffic Service Area specified in 33 CFR part 161; or

(vi) An area within one-half nautical mile of any U.S. shore.

Dated: December 30, 1991.

A. E. Hearn,

Rear Admiral, U.S. Coast Guard, Chief, Office of Marine Safety, Security and Environmental Protection.

[FR Doc. 92-189 Filed 1-3-92; 9:45 am]

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U.S. Department
of Transportation
**United States
Coast Guard**



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U S Coast Guard

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DEPARTMENT OF TRANSPORTATION

U.S. COAST GUARD

STATEMENT OF REAR ADMIRAL ARTHUR E. "GENE" HENN

ON THE TANKER NAVIGATION SAFETY STANDARDS STUDY

BEFORE THE

COMMITTEE ON MERCHANT MARINE AND FISHERIES

SUBCOMMITTEE ON COAST GUARD AND NAVIGATION

HOUSE OF REPRESENTATIVES

FEBRUARY 17, 1993



**Rear Admiral A. E. "Gene" Henn
Chief, Office of Marine Safety, Security
and Environmental Protection
United States Coast Guard**



Rear Admiral Arthur Eugene Henn became Chief, Office of Marine Safety, Security and Environmental Protection at Coast Guard Headquarters, Washington, D.C., in June 1991. Prior to this assignment, Rear Admiral Henn was Commander of the Maintenance and Logistics Command, Atlantic.

Earlier assignments included that of Operations and Engineering Officer on the Coast Guard cutter Chincoteague; Assistant Chief, Merchant Marine Technical Branch, New Orleans, LA; and Special Project Action Officer, Merchant Marine Technical Division, Coast Guard Headquarters.

He was also Marine Inspector and Senior Investigating Officer, Marine Inspection Office, Philadelphia, PA; Chief, Engineering Branch and Chief, Marine Technical and Hazardous Materials Division, Coast Guard Headquarters; Captain of the Port, New York; Commander, Group, New York; Commander, Subsector, New York, Maritime Defense Zone, Atlantic; and Chief, Operations Division and Chief of Staff, Eighth Coast Guard District, New Orleans, LA.

A 1962 graduate of the Coast Guard Academy, Rear Admiral Henn earned combined master of science degrees in naval architecture, marine engineering and metallurgical engineering from the University of Michigan in 1968. Also, he is a 1982 graduate of the Army War College.

His decorations include the Legion of Merit, two Meritorious Service Medals, four Coast Guard Commendation Ribbons, Coast Guard Unit Commendation Ribbon, Coast Guard Achievement Medal and two Commandant's Letter of Commendation Ribbons.

Rear Admiral Henn is a member of the American Society of Naval Engineers, American Bureau of Shipping, International Cargo Gear Bureau, Marine Index Bureau, Marine Engineering Council of Underwriters Laboratories and the Sealift Committee of the National Defense Transportation Association.

During the past 20 years, he has represented the United States Coast Guard as a member of delegations to the International Maritime Organization, a United Nations specialized agency. He heads United States delegations to meetings of the Maritime Safety and Marine Environment Protection Committees of IMO.

A native of Cincinnati, Ohio, Rear Admiral Henn is married to the former Susan Frances Pedritti, also from Cincinnati. They have two grown children, David and Jennifer.

DEPARTMENT OF TRANSPORTATION
U.S. COAST GUARD
STATEMENT OF REAR ADMIRAL A. E. HENN
ON THE TANKER NAVIGATION SAFETY STANDARDS STUDY
BEFORE THE SUBCOMMITTEE ON COAST GUARD AND NAVIGATION
COMMITTEE ON MERCHANT MARINE AND FISHERIES
HOUSE OF REPRESENTATIVES
FEBRUARY 17, 1993

Good morning, Mr. Chairman and distinguished members of the Subcommittee. I am Rear Admiral Gene Henn, Chief of the Coast Guard's Office of Marine Safety, Security and Environmental Protection. I appreciate this opportunity to bring you up to date on our efforts to implement certain sections of the Oil Pollution Act of 1990 (OPA 90). The Coast Guard has been involved in a multifaceted effort to respond to the mandates of OPA 90. One of the major tasks assigned to the Coast Guard by OPA 90 is the completion of certain studies. These studies are crucial to a rational implementation of the Act.

The regulations stemming from OPA 90 will have a substantial impact on the cost of doing business in the maritime industry and on the quality of the environment. In order to hold the costs of the implementing regulations as low as possible, while still meeting the full objectives of the Act, it is necessary to understand the full implications of each regulatory approach and the available alternatives. Only through well-designed and executed studies is it possible to craft a balanced and effective regulation. One of the most complex and comprehensive studies

being conducted in response to OPA 90 is the Tanker Navigation Safety Standards Study.

REQUIREMENTS OF THE STUDY

Section 4111 of the Oil Pollution Act of 1990 directs the Secretary of Transportation to initiate a study to determine whether existing laws and regulations are adequate to ensure the safe navigation of vessels transporting oil or hazardous substances in bulk on the navigable waters of the United States and the waters of the exclusive economic zone. Section 4111 also requires that the Secretary transmit to the Congress a report on the results of the study, including recommendations for implementing the results of that study. Responsibility for conducting the study and preparing the report has been delegated to the U.S. Coast Guard.

Section 4111 required that the study be initiated not later than one year after the Act. This section also required that the report with recommendations for implementing the results of the study be submitted not later than two years after the Act, or August 18, 1992. Due to the extreme complexity of the various study efforts that make up the Tanker Navigation Safety Standards Study, it was not possible to deliver a finished product by the deadline. However, we provided an interim report that explained the study methodology, gave a snapshot of the study's status at that point, and proposed a fiscal year 1995 submission date for the complete report. Since the submission of the interim report,

significant progress has been and continues to be made towards the successful completion of the study. My testimony today will highlight the progress made to date.

STUDY METHODOLOGY

Before I delve into the details of each of the section 4111 subsections, I believe it's important to first explain the study methodology. We developed this methodology based upon the direction contained in subsection 4111(b)(9) which requires us to review and incorporate the results of past studies, including studies conducted by the Coast Guard and the Office of Technology Assessment (OTA). In August 1991, the Tanker Navigation Safety Research Baseline was delivered by the consulting firm Booz, Allen, and Hamilton. The Research Baseline report listed 460 different reports, books, and studies whose titles related in some way to the Tanker Navigation Safety Standards Study. We augmented the Baseline Research report, by reviewing report listings provided by the OTA, the Coast Guard Research and Development Center, the Maritime Administration (MARAD), the National Research Council (NRC), the Computer Aided Operations Research Facility (CAORF), the Maritime Technical Information Facility (MTIF), and the Volpe National Transportation Systems Center (VNTSC). We obtained copies of the studies identified. The result is a library that is specifically dedicated to previously-conducted research material that will be used for background data when composing the various reports of the section 4111 subsections.

Our desire to keep study costs at a reasonable level, while compiling as comprehensive a data base as possible, led us to exceed the requirement in the Act and identify ongoing research initiatives, as well as past ones, that pertain to the section 4111 study. The Coast Guard is tracking many of the research initiatives identified for eventual inclusion in the study.

In spite of the amount of material uncovered in this literature search, the Coast Guard discovered that several subsections of the study still had no significant supporting data. As a result, we have commissioned several major supporting studies specifically dedicated to "fill the gaps" where no previous or ongoing research was identified.

STATUS OF THE STUDY

The diversity of issues contained in section 4111 makes completing a comprehensive study a formidable undertaking. Each of 12 subsections in itself could be considered a major study. For purposes of discussion, I have grouped the study requirements into four broad categories. As shown in Diagram One (attached), the four natural groupings are Personnel and Training, Navigation, Inspection, and Research/Background. These groupings are discussed individually below.

SUBSECTIONS THAT ADDRESS PERSONNEL AND TRAINING ISSUES

Subsection b(1), in order to evaluate the adequacy of existing statutes and regulations to ensure safe navigation of tankers, requires us to determine the appropriate crew size on tankers. This requirement is being addressed through three primary supporting studies. These studies are: The National Research Council's (NRC) study on Crew Size and Maritime Safety, an internal Coast Guard analysis of crew sizes on seagoing tankers, and a Maritime Administration study on crew fatigue and reduced manning.

The NRC's Study on Crew Size and Maritime Safety, which was released soon after OPA 90 was enacted, has provided an excellent starting point for this study requirement. In 1991, acting on a recommendation from the NRC Study, the Coast Guard contracted with Battelle Corporation to conduct a review of existing manning models to determine their potential use for setting manning standards on commercial vessels. Battelle's review identified limitations with existing models. In order to develop a modern, functional-based manning model which reflected up-to-date human factors information, the Coast Guard has embarked on a comprehensive research and development effort. This effort will produce a shipboard database and analysis tools that can assist us in setting more effective manning requirements for commercial vessels, including tankers. Information will be collected this fiscal year that will aid the Coast Guard in assessing manning and qualification requirements for bridge operations. In fiscal

year 1994, a similar analysis will be conducted for cargo operations. Although development of the components of a complete manning model will be accomplished in stages spanning a number of years, the associated data collection efforts will be reflected in the conclusions and recommendations of the Tanker Navigation Safety Standards Study.

Section b(2) requires us to evaluate the adequacy of qualifications and training of crew members on tankers. The Coast Guard, working through the VNTSC, has undertaken a major new study specifically commissioned to address this subsection. The study will analyze tasks performed by both licensed deck and engineering officers aboard U.S. flagged tankers. The study will also include recommendations concerning requirements for specific tankship endorsements, the need for specialized training, and the need for refresher training. The scheduled completion date is August 1993. Additionally, the Coast Guard has initiated a long term ('92-'96) research and development effort to determine the skills required to operate automated ships and to recommend training procedures. In fiscal year 1993 and 1994, this effort will collect data on automated bridge equipment and determine the training requirements for bridge tasks under various levels of automation. This information will be incorporated into the Tanker Navigation Study as appropriate. The NRC Assessment of Shiphandling Simulation Training scheduled for completion in late fiscal year 1994 will also have a significant impact on this subsection. I will discuss this particular NRC study in greater detail later in my testimony.

Subsection b(3) requires an evaluation of the ability of crewmembers to take emergency actions to prevent or remove a discharge of oil. The proper role of the crew in responding to a spill has been exhaustively explored during the Equipment Carriage and Vessel Response Plan rulemakings required by the FWPCA as amended by section 4202 of OPA 90. The Vessel Response Plan regulations, which were published on February 5, 1993, include a detailed section on the responsibilities of the crew and the procedures they will follow to mitigate or prevent a discharge of oil. In addition to public comments and input from the Oil Spill Response Plan Negotiated Rulemaking Committee, the Coast Guard Research and Development Center sponsored a study entitled "Investigation of Self-Help Oil Spill Response Techniques." With the proper role of the crew determined, the ongoing Crew Qualifications and Training Study discussed above will evaluate the necessary training requirements.

Subsection (b)(10) requires the Coast Guard to evaluate the use of computer simulator courses for training bridge officers and pilots. The key supporting study for this subsection is the National Response Center (NRC) Assessment of Shiphandling Simulation Training. This NRC study will assess marine simulation's potential to contribute to the professional knowledge and skill development of deck officers. It will also discuss the level of simulator realism needed to satisfy training objectives. Additionally, the study will develop performance and

accreditation standards for marine simulation training. The committee selected to perform this study is scheduled to commence work in mid-March 1993. The expected completion date is late fiscal year 1994. The Crew Training and Qualifications study I discussed in subsection (b)(2) will also impact on this subsection.

Subsection (b)(12) requires that we evaluate and test a program of remote alcohol testing for masters and pilots aboard tankers. We have explored a number of high-tech and low-tech program options, but have not yet initiated a remote alcohol testing program on which to base an evaluation. On the high-tech end of the spectrum, we have investigated the applicability of a "shipboard shore monitored remote alcohol testing system" and determined that the effectiveness of such a system is questionable due to the ability of the individual being tested to circumvent the system.

On the low end of the technological spectrum are the Coast Guard's current regulations for alcohol testing contained in 33 CFR part 95 and 46 CFR part 4.

Current Coast Guard regulations concerning alcohol testing (contained in 33 CFR part 95) authorize testing for reasonable cause. These regulations give law enforcement officers and the marine employer (which includes the master) authority to test any member of the crew (including the pilot) if that individual

appears to be intoxicated. A marine casualty is also considered reasonable cause for this testing. Also, we have mandatory provisions for post-accident testing (contained in 46 CFR part 4) which require the marine employer to test all individuals directly involved in the incident for evidence of alcohol or drug use. The current Coast Guard regulations cover the testing of the pilot.

Along those same lines, we have recently published a Notice Of Proposed Rule Making (NPRM) that proposes to amend Coast Guard regulations for chemical drug and alcohol testing of commercial vessel personnel to include information collection requirements regarding marine industry drug and alcohol testing programs. This NPRM was published in the Federal Register on December 15, 1992. Information collected as a result of this rulemaking will provide us with data to determine the prevalence of maritime industry drug and alcohol usage and to determine the effectiveness, over time, of the industry drug and alcohol testing rules.

SUBSECTIONS THAT ADDRESS NAVIGATION ISSUES.

Subsections b(4) and b(6) require an evaluation of the adequacy of navigation equipment and navigation procedures. These issues are being evaluated in the NRC study on "Advances in Navigation and Piloting", which is scheduled to be completed in August 1993. The Coast Guard is also pursuing a number of high priority projects related to navigation systems. These include the development and deployment of a Differential Global Positioning System (DGPS) by 1996 and an Integrated Navigation Systems Test and Evaluation Project. The test and evaluation project is evaluating the capability and effectiveness of current and prototype Integrated Navigation Systems and an Electronic Chart Display Information System (ECDIS). A status report on the U.S. ECDIS test and evaluation program including recommendations regarding the adequacy of proposed International Maritime Organization (IMO) standards will be submitted by the Coast Guard at the September 1993 IMO Safety of Navigation Subcommittee meeting. We are very excited about this technology, and believe that it is the wave of the future.

Subsection (b)(5) requires that we test and evaluate an electronic means of position reporting for tankers. The Coast Guard and MARAD jointly sponsored a study and demonstration of this technology. The Coast Guard will have further opportunity to evaluate this technology when the use of Automated Dependent Surveillance (ADS) Shipborne Equipment becomes mandatory for certain tank vessels operating in Prince William Sound, Alaska.

Also, section 7001(c)(2)(J) of OPA 90 requires the Coast Guard to conduct a demonstration of a satellite-based, dependent surveillance vessel traffic service in Narragansett Bay, Rhode Island. The demonstration is scheduled for fiscal year 1994.

Subsection(b)(7) requires the Coast Guard to review areas of the navigable waters and the exclusive economic zone to determine if tanker traffic should be limited or restricted. In the legislative history of the Act, Congress expressed a specific interest in areas under moratorium from oil and gas drilling, as well as Montauk Point, New York and Santa Barbara Channel, California. These areas, which encompass the entire West Coast, a major portion of the East Coast, and the Eastern Gulf of Mexico, became our study areas.

The Coast Guard has been working diligently to identify sensitive environments and determine the traffic patterns and number of tankers that transit these areas. This has proven to be a major undertaking as the information is not readily available. The Minerals Management Service (MMS) has been most helpful in providing offshore oil-spill trajectory analysis support which includes 220 environmental resource locations and the modeling of over three million oil spill simulations. In addition, the MMS Worldwide Tanker Oil Spill Database was provided to assist the Coast Guard in estimating tanker oil spill occurrence.

We plan to report to you on the West Coast section, including the Santa Barbara Channel, by the end of 1993. The East Coast, including Montauk Point, and Eastern Gulf of Mexico sections will be submitted as they are completed, but no later than 1995.

INSPECTION STANDARDS

Subsection (b)(8) specifically addresses issues related to inspection standards. This requirement will be addressed primarily through a combination of studies that have been undertaken since the EXXON VALDEZ oil spill. The Report of the Tanker Safety Study Group examined, among other things, how Coast Guard inspection policies, practices and legal authorities might be modified to better provide for tankship safety. The Report on the Trans-Alaska Pipeline Service (TAPS) Tanker Structural Failure Study and subsequent follow-up report developed short and long-term solutions to structural failures, and also investigated matters related to inspection efficiency and the methods used to conduct inspections of large tanks vessels. Finally, the General Accounting Office (GAO) prepared a report on the effectiveness of the Coast Guard inspection program for vessels carrying oil and other hazardous cargo. There are also two research projects underway at the Coast Guard Research and Development Center that pertain to inspection procedures. These projects are being monitored and their findings will be incorporated into the section 4111 study.

SUBSECTIONS CLASSIFIED AS RESEARCH/BACKGROUND.

Subsection (b)(9) requires us to review and incorporate the results of past Coast Guard and OTA studies. We have completed the review and are in the process of incorporating these previous studies into the section 4111 study.

Subsection (b)(11) requires us to evaluate the size, cargo capacity, and flag nation as well as risks associated with the increase in size of tankers over the past 20 years. We are addressing this subsection through a 20-year tanker trend analysis specifically commissioned for the Tanker Navigation Safety Standards Study. We are working through the VNTSC on this project. A statement of work has been prepared and preliminary data collection has commenced. Although we are experiencing difficulty in the identification and collection of 20 years of consistent data, we still expect completion of the analysis in October 1993.

In addition to the work being done on the Tanker Navigation Safety Standards Study, there are other Coast Guard initiatives that will address parallel issues such as manning, vessel inspections, and human factors issues. First, the Coast Guard has been working on a number of administrative reforms that were included in former Secretary of Transportation Card's Maritime Reform Initiatives. A Coast Guard staff has recently been formed for this effort. This staff is focusing on ten issues in order to reduce regulatory burdens and improve the competitiveness of

the U.S. maritime industry. Five of these issues concern ship design standards, enforcement and port state control. The other five issues concern vessel manning requirements. The findings of this staff will be monitored and incorporated into the Tanker Navigation Safety Standards Study as they develop. Second, the Coast Guard Research and Development Center is currently examining issues pertaining to human factors in merchant shipping. Although the human factors research is not scheduled to be completed before 1997, developments on this front are being monitored and will be incorporated into the Tanker Navigation Safety Standards Study, where applicable.

STUDY SUBMISSION

The Tanker Navigation Safety Standards Study is a lengthy and complicated project. As reflected in Diagram Two, the complexities of the study are exacerbated by the fact that almost every subsection impacts other subsections. For example, the adequacy of qualifications and training impacts directly on the issue of appropriate crew size. Likewise, the issue of navigation equipment is directly linked to navigation procedures, and the use of computer simulators is linked to training. Also, supporting studies that impact on more than one subsection strengthen the links between the subsections. Diagram Three shows how several major supporting studies will impact more than one subsection.

The question has been posed, "can the Coast Guard submit reports and recommendations on any of the 12 subsections before the proposed submission date in fiscal year 1995?" The answer is yes, subsections can be submitted in a piecemeal fashion. However, because of the interdependence of many section 4111 subsections and the time lag between completion of related portions, the study would lose much of its effectiveness if submitted in parts. In light of this, I am recommending that the entire study, with the exception of section (b)(7), the Tanker Exclusion Zone Study, be submitted only after all subsections have been completed. I expect a fiscal year 1995 submission of the Tanker Navigation Safety Standards Study. The Tanker Exclusion Zone Study is an independent subsection of the study and will be submitted when completed, as discussed earlier.

SECTION 4114(a)

The Committee has also expressed interest in the progress the Coast Guard has made implementing Section 4114(a) of the Act (Waters where tankers must navigate under stricter rules than are now required). The final rule which implements the three tanker navigation safety provisions is nearing completion. This rule combines the OPA 90 sections on unattended machinery spaces, auto pilot, and second officer on the bridge.

Section 4114(a) of OPA 90 requires the Coast Guard to determine where tank vessels may use an autopilot and operate with an

unattended engine room. The Coast Guard published a Notice of Proposed Rulemaking that proposed to allow highly automated tankers to operate with unattended machinery spaces when in U.S. waters. U.S. waters include navigable waters of the U.S. out to three nautical miles from the territorial sea baseline. After reviewing the comments that were received, the Coast Guard revised that proposal. A Supplemental Notice of Proposed Rulemaking was issued that proposed to require a licensed engineer in the machinery spaces of tankers whenever in U.S. waters.

Published along with the auto pilot and unattended engine room proposals was a proposed requirement for a second officer on the bridge. This Coast Guard proposal requires all tankers over 1,600 gross tons to have at least two licensed officers on the bridge when in internal waters. The final rule for this proposal is expected to be published within the next two months.

MANNING REQUIREMENTS

Finally, the Committee has asked for a report on what the Coast Guard is doing to implement sections 4114(b) through (e) on manning requirements.

The Coast Guard is meeting all the mandates of OPA 90 subsections 4114(b) through (e) with ongoing projects. None of these projects require rulemaking. The particulars for each subsection are discussed below.

4114(b) Watches 46 U.S.C. 8104(n) states, "On a tanker, a licensed individual or seaman may not be permitted to work more than 15 hours in any 24-hour period, or more than 36 hours in any 72-hour period, except in an emergency or a drill. In this subsection, 'work' includes any administrative duties associated with the vessel whether performed on board the vessel or onshore."

To meet the requirements of OPA section 4114(b), the Coast Guard recently directed Officers In Charge of Marine Inspection (OCMI's) to carefully evaluate proposed manning for tankers to ascertain whether the required crew will have the ability to comply with work hour limitations imposed by OPA 90. By letter to our field commands in June 1992, we advised that boarding officers and marine inspection personnel should conduct a review of vessel work logs, maintenance records, and interview crewmembers as necessary at inspections and re-inspections, to validate the adequacy of required manning to maintain the vessel in safe operating condition.

4114(c) Manning Requirements: Section 4114(c) adds a provision to 46 U.S.C. 8101(a) requiring the Secretary to consider navigation, cargo handling, and maintenance functions in determining a ship's complement. The Coast Guard has always considered these factors in establishing manning levels for all vessel types; however, the Marine Safety Manual is being revised to emphasize the need to consider the additional workload demand of cargo-handling and

maintenance functions in determining the appropriate manning level for U.S. tank vessels.

4114(d) Standards: Amended section 9102(a) of 46 U.S.C. now directs the Coast Guard to include instructions on vessel maintenance functions as part of the standards for duties, qualifications, and training of tank vessel crews. The United States does not issue licenses or documents that limit service exclusively on tank vessels. Therefore, vessel maintenance functions must be contained in the examinations for all licenses and document endorsements that would allow service on tank vessels. The Coast Guard has determined that, although there is no specific "vessel maintenance functions" listing in the License Examination Subjects in 46 CFR 10, the current examination question bank for licenses and merchant mariner's document endorsements already contains sufficient questions on tank vessel cargo handling equipment and general shipboard maintenance. This question bank is in a state of constant review and revision to remain current with industry standards and practices, technological evolution, and marine safety concerns.

4114(e) Records: Amended section 7502 of 46 U.S.C. now states that the Secretary shall "maintain computerized records on issuances, denials, suspensions, and revocations of licenses, certificates of registry, and merchant mariners' documents and endorsements." The Coast Guard began computerizing merchant mariners' licenses and documents in 1990 and has backloaded

personnel information on 1.9 million existing merchant mariner licenses, certificates, and documents into the database, in addition to approximately 10,000 new merchant mariner credentials per year. The Coast Guard is also studying the feasibility of using a renewable merchant mariners digitized identification card to simplify recordkeeping and the processing of shipment and discharge information, as well as expediting personnel transactions such as document renewals or endorsements.

This concludes my testimony. Thank you for the opportunity to address the Committee. I would be happy to answer any questions you may have.

SUBSECTIONS OF THE
TANKER NAVIGATION SAFETY STANDARDS STUDY
FALL INTO FOUR NATURAL GROUPINGS

PERSONNEL AND TRAINING ISSUES

- 4111 b(1) - Determine Appropriate Crew Size on Tankers
- 4111 b(2) - Crew Qualifications and Training
- 4111 b(3) - Ability of tanker crewmembers to take emergency actions for discharges
- 4111 b 10 - Simulator Training
- 4111 b 11 - Remote Alcohol Testing Program

NAVIGATION ISSUES

- 4111 b 4 - Adequacy of Tanker Navigation Equipment
- 4111 b 5 - Electronic means of Position Reporting
- 4111 b 6 - Tanker Navigation Procedures
- 4111 b 7 - Tanker Free Zones

INSPECTION ISSUES

- 4111 b(8) - Inspection Standards

RESEARCH/BACKGROUND ISSUES

- 4111(b)(9) - Identify and incorporate previously conducted studies.
- 4111(b)(11) -20 Year Tanker Trend/Risk Analysis

diagram 1

CERTAIN SYNERGIES AND INTERDEPENDENCIES EXIST AMONG THE PERSONNEL-ORIENTED TASKS AND BETWEEN THE EQUIPMENT ISSUES, IMPLYING THERE IS AN ADVANTAGE TO COUPLING THE STUDY APPROACHES IN THESE AREAS

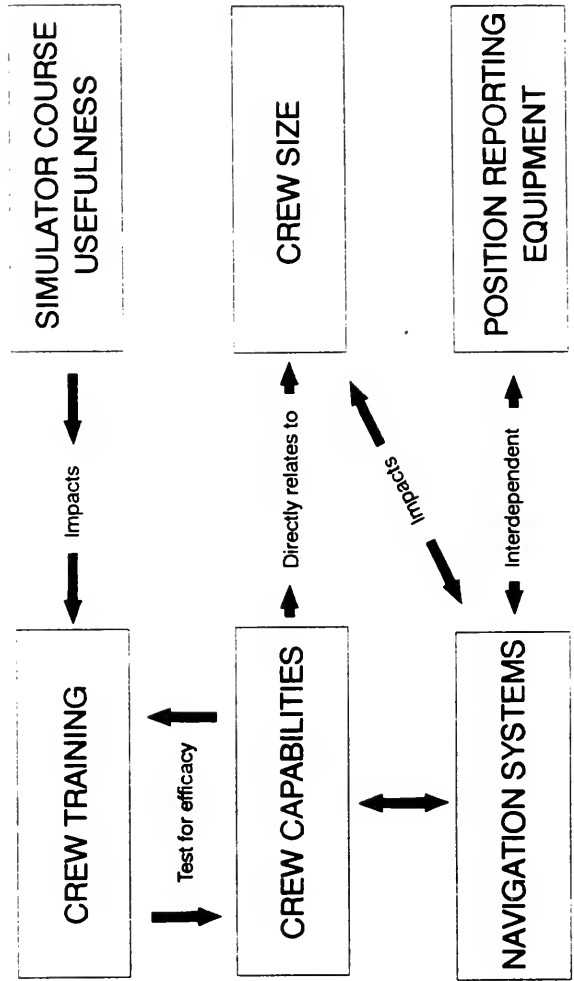


diagram 2

Major Studies Impacting Multiple Subsections Contained in Section 4111

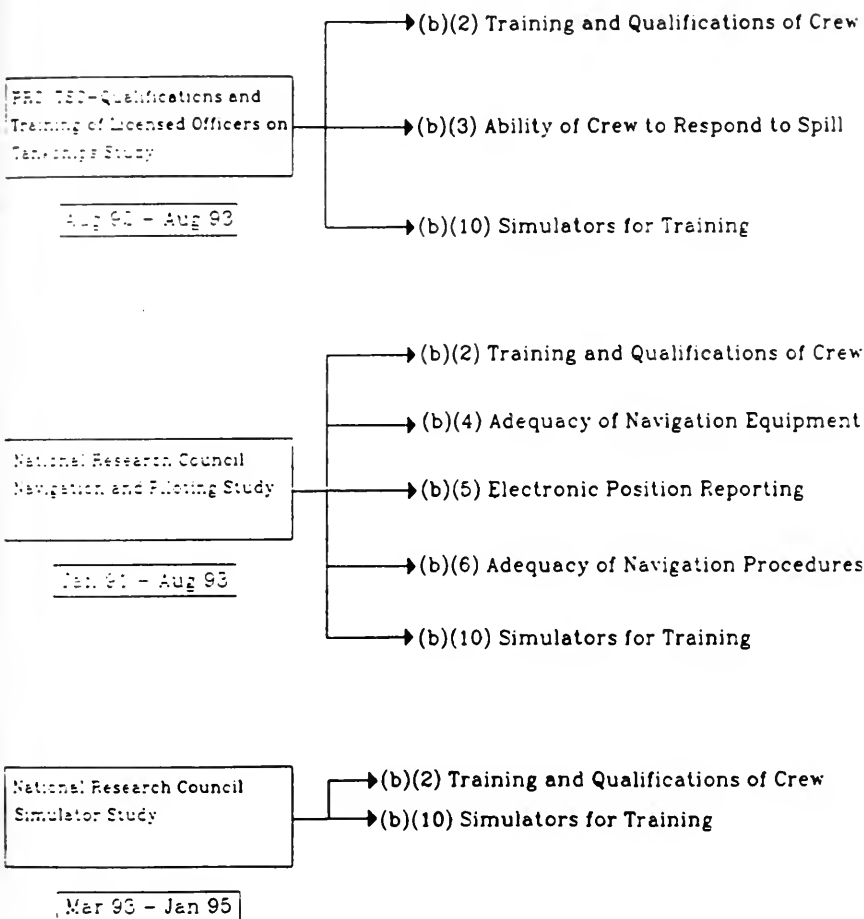


diagram 3

STATUS OF THE NAVIGATION SAFETY STUDY SUBPARTS**PERSONNEL and TRAINING (Contains 5 subparts):**

1. Crew Size and Maritime Safety: Status: A study by the National Research Council served as a starting point for this portion of the study. In 1992, acting on a recommendation from the NRC Study, the Coast Guard contracted the Battell Corporation to conduct a review of existing manning models to determine their potential use for setting manning standards on commercial vessels. Battell's review identified serious deficiencies with existing models. As a result, the Coast Guard has embarked on a major research and development effort to develop a shipboard database and analysis tools that can assist us in setting manning requirements for commercial vessels. Information will be collected that will aid the Coast Guard in assessing manning and qualification for bridge operations this fiscal year. In FY94 a similar analysis will be conducted for cargo operations. Although development of an actual manning model is still years off, these data collection efforts will assist in making valid manning recommendations for the Tanker Navigation Safety Standards Study.

2. Adequacy of Qualifications and Training of Crew Members on Tankers:

Status: The Coast Guard, working through the Volpe National Transportation Systems Center, has undertaken a major new study specifically commissioned to address this subsection. The study will analyze tasks performed by both licensed deck and engineering officers aboard U.S. flagged tankers. The study will also include recommendations concerning requirements for specific tankship endorsements, the need for specialized training, and the need for refresher training. The scheduled completion date is August 1993. Additionally, the Coast Guard has initiated a long term research and development effort to determine the skills required to operate automated ships and to recommend training procedures. In FY93 and 94 this effort will collect data on automated bridge equipment and determine the training requirements for bridge tasks under various levels of automation. This information will be incorporated into the Tanker Navigation Study as appropriate. The NRC Assessment of Shiphandling Simulation Training scheduled for completion in late FY94 will also have a significant impact on this subsection.

3. Ability of Crewmembers to Take Emergency Action to Prevent or Remove a Discharge of Oil:

Status: The proper role of the crew in responding to a spill has been exhaustively explored during the Equipment Carriage and Vessel Response Plan rulemakings required by the FWPCA as amended by section 4202 of OPA 90. The Vessel Response Plan regulations, which were published on February 5, 1993, include a detailed section on the responsibilities of the crew and the procedures they will follow to mitigate or prevent a discharge of oil. In addition to public comments and input from the Oil Spill Response Plan Negotiated Rulemaking Committee, the Coast Guard Research and Development Center sponsored a study entitled "On-Board Self-Help Oil Spill Counter Measures for Ocean Going Tankers". With the proper role of the crew determined, the ongoing Crew Qualifications and Training Study discussed above will evaluate the necessary training requirements.

4. Use of Computer Simulator Courses for Training Bridge Officers and Pilots:

Status: The key supporting study for this subsection is the NRC Assessment of Shiphandling Simulation Training. This NRC study will assess marine simulation's potential to contribute to the professional knowledge and skill development and retention for deck officers. It will also discuss levels of simulation and fidelity needed to satisfy training objectives and develop performance and accreditation standards concerning marine simulation training. The committee selected to perform this study is scheduled to commence work in mid-March 1993. The expected completion date is late FY 94. The Crew Training and Qualifications study will also impact on this subsection.

5. Remote Alcohol testing:

Status: We have explored a number of program options both high tech and low tech and as of yet have not initiated a program of remote alcohol testing on which to base an evaluation. On the high tech end of the spectrum, we have investigated the applicability of a "shipboard/shore monitored remote alcohol testing system" and determined that the effectiveness of such a system is questionable.

On the low end of the technological spectrum are the Coast Guard's current regulations for alcohol testing contained in 33 CFR part 95, 46 CFR part 4, and the OPA 90 amendment to 46 USC 8101 which requires the next two most senior licensed officers to relieve the Master if they believe that the Master is intoxicated.

Current Coast Guard regulations concerning alcohol testing (contained in 33 CFR part 95) authorize testing for reasonable cause. These regulations give law enforcement officers and the marine employer (which includes the Master) authority to test any member of the crew (including the pilot) if that individual appears to be intoxicated. A marine casualty is also considered reasonable cause for this testing. Also, we have mandatory provisions for post accident testing (contained in 46 CFR part 4) which require the marine employer to test all individuals directly involved in the incident for evidence of alcohol or drug use. The current Coast Guard regulations cover the testing of the pilot. Presently, the removal of the Master regulations are under development. Once all regulations are in place we will be able to monitor and evaluate their effectiveness.

Along those same lines, we have recently published a Notice of Proposed Rule Making (NPRM) which proposes to amend Coast Guard regulations for chemical drug and alcohol testing of commercial vessel personnel to include information collection requirements regarding marine industry drug and alcohol testing programs. This NPRM was published in the Federal Register on December 15, 1992. Information collected as a result of this rulemaking will provide us with the data necessary to better determine the prevalence of maritime industry drug and alcohol usage and to determine the effectiveness, overtime, of the industry drug and alcohol testing rules.

NAVIGATION (Contains 4 subsections):

1. Adequacy of Navigation Equipment:

Status: This issue is being evaluated in the NRC study on "Advances in Navigation and Piloting", which is scheduled to be completed in August 1993.

2. Navigation Systems:

Status: Studies are being conducted on development and deployment of a Differential Global Positioning System (DGPS) by 1996 and an Integrated Navigation Systems Test and Evaluation Project. The test and evaluation project is evaluating the capability and effectiveness of current and prototype Integrated Navigation Systems and Electronic Chart Display Information System (ECDIS). A status report on the U.S. ECDIS test and evaluation program including recommendations regarding the adequacy of proposed International Maritime Organization (IMO) standards will be submitted by the Coast Guard at the September 1993 IMO Safety of Navigation Subcommittees meeting. We are very excited about this technology, and believe that it is the wave of the future.

3. Electronic Means of Position Reporting:

Status: The Coast Guard and MARAD jointly sponsored a study and demonstration of this technology. The Coast Guard will have further opportunity to evaluate this technology when the use of Automated Dependent Surveillance (ADS) Shipborne Equipment becomes mandatory later this year for certain tank vessels operating in Prince William Sound. Also, section 7001(c)(2)(J) of OPA 90 requires the Coast Guard to conduct a demonstration of a satellite-based, dependent surveillance vessel traffic service in Narraganset Bay, RI. The demonstration is scheduled for FY94.

4. Tanker Exclusion Zones:

Status: In the legislative history of the act, Congress expressed a specific interest in areas under moratorium from oil and gas drilling, as well as Montauk Point, NY and Santa Barbara Channel, CA. These areas, which encompass the entire west coast, a major portion of the east coast, and the eastern Gulf of Mexico, became our study areas.

The Coast Guard has been working diligently to identify sensitive environments and determine the traffic patterns and number of tankers that transit these areas. This has proven to be a major undertaking as the information is not readily available. The Minerals Management Service (MMS) has been most helpful in providing offshore oilspill trajectory analysis support which includes 220 environmental resource locations and the modeling over 3 million oil spill simulations. In addition, the MMS Worldwide Tanker Oil Spill Database was provided to assist the Coast Guard in estimating tanker oil spill occurrence.

We plan to report to you on the West Coast section, including the Santa Barbara Channel, by the end of 1993. The East Coast, including Montauk Point, and Eastern Gulf of Mexico sections will be submitted as they are completed, but no later than 1995.

INSPECTION STANDARDS:

1. The Act required evaluation of Inspection Standards:

Status: This study requirement will be addressed primarily through a combination of studies that have been under taken since the EXXON VALDEZ oil spill. The Report of the Tanker Safety Study Group examined, among other things, how Coast Guard inspection policies, practices and legal authorities might be modified to better provide for tankship safety. The Report on the Trans-Alaska Pipeline service (TAPS) Tanker Structural

Failure Study and subsequent follow-up report developed short and long-term solutions to structural failures, and also investigated matters related to inspection efficiency and the methods used to conduct inspections of large tanks vessels. Finally the General Accounting Office (GAO) prepared a report on the effectiveness of the Coast Guard inspection program for vessels carrying oil and other hazardous cargo. There are also two research projects underway at the Coast Guard Research and Development Center that pertain to inspection procedures. These projects are being monitored and their findings will be incorporated into the section 4111 study.

RESEARCH/BACKGROUND:

1. Review results of OTA studies:

Status: We have completed the review and are in the process of incorporating these preexisting studies into the section 4111 study.

2. Twenty Year Tanker Trend Analysis:

Status: The Act requires an evaluation of the size, cargo capacity, and flag nation of tankers as well as risks associated with the increase in size of tankers over the past 20 years. We are addressing this subsection through a 20 year tanker trend analysis specifically commissioned for the Tanker Navigation Safety Standards Study. We are working through the Volpe Transportation Systems Center (TSC) on this project. A statement of work has been prepared and preliminary data collection has commenced. Although we are experiencing difficulty in the identification and collection of 20 years of consistent data, we still expect completion of the analysis in October 1993.

WALL STREET JOURNAL

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FRIDAY, FEBRUARY 12, 1993

WHITE OAK, MARYLAND

Craft Warning

Unsafe Oil Tankers And Ill-Trained Crews Threaten Further Spills

Nations With Lax Regulation Register Unworthy Ships, And Straits Aren't Policed

U.S. Liability Law May Help

LONDON — British Petroleum Co. inspectors spent hours crawling over a 550-foot Maltese-registered tanker in Amsterdam last year. They came away appalled.

BP found 73 deficiencies, some of them mind-boggling. Many of the navigation charts aboard the Greek-owned vessel, which had been offered to the oil company for charter, hadn't been updated for 20 years. Two of its engineers were unlicensed. Its anticollision radar was out of whack. The crew was Greek and Filipino, but the ship's safety and mechanical manuals were written in Serbo-Croatian.

Even worse, the tanker, brimming with 22,000 tons of gasoline, had a hope-

By Wall Street Journal staff reporters Ken Wells in London, Daniel Machalaba in New York and Caleb Solomon in Houston.

lessly inadequate fire-control plan while most of its crew went about blithely ignoring no-smoking regulations, BP inspectors noted. Not surprisingly, the oil company, which flunked nearly a third of the 1,000 vessels it inspected last year, rejected this one, too. Yet the ship continues to ply international waters for others.

Getting a Bad Name

BP's concern is one shared by major oil companies and governments around the world. Aging, poorly run ships, ill-trained crews and poor navigation are giving the world's tanker industry a bad name. While world-wide tanker losses dipped slightly in 1992 from 1991 levels, 1993 is off to a terrible start; tanker-related oil spills in the Shetland Islands, Indonesia and Estonia, along with one in Spain in December, have prompted inquiries and calls for stiffer regulation. Three of the accidents were believed caused by navigation errors.

Britain's transport secretary, John MacGregor, after a recent cursory look at the state of the global tanker fleet, declared: "Substandard shipping is an international disgrace."

Statistics are on his side. Twenty percent of the world's tankers are considered unsafe, yet they continue to operate in vast and busy global sea lanes that remain largely unpoliced. Cutthroat market conditions, shoddy operators and scant international regulation add to the strain on a system that moves two billion tons of oil and petroleum products annually. With the exception of the U.S., where punishing liability laws imposed after the 1989 Exxon Valdez disaster seem to have shocked shippers into tougher safety standards, the world's tanker lanes are growing more perilous.

Expanding Fleets

Many of the seafaring states with the worst safety records over the past five years — Panama, South Korea, Malta, Cyprus and the island nation of St. Vincent among them — are the very flag states whose total fleets, tankers included, are expanding. The proliferation of these "flags of convenience" — ships registered in Third World countries by owners seeking to avoid the higher taxes and more stringent regulations of most Western maritime powers — implies "a continued deterioration" of world-wide ship accident rates, says the Institute of London Underwriters, a marine-insurance consortium.

Furthermore, the quality of international seamanship has slipped markedly in the past decade, in part because there is no global oversight of the accreditation of the world's seafarers. "Considering the very sophisticated navigational aids now available," the number of tanker collisions points to "poor crew standards and lack of training," an institute report says.

The nominal traffic cop of the seas, the United Nations' International Maritime Organization, has spent decades promulgating tanker standards and safety regulations now endorsed by 99% of the world's seafaring nations. Yet the IMO concedes it has no real power to punish member states that chronically flout the law. "The flags," says IMO spokesman Roger Kohn, "are our bosses."

U.S. as Outcast

The U.S., despite perceptions left over from the disastrous Exxon Valdez spill, is viewed as the bright spot in an otherwise gloomy global picture, and it could prove to be the model for other accident-weary nations contemplating an assault on tanker accidents. In 1990, dissatisfied with the IMO's progress in raising the liability limits for tankers involved in oil spills, the U.S. pushed ahead with the Oil Pollution Act.

The act raises the liability for owners of an average-size supertanker operating in U.S. waters to around \$100 million from about \$14 million under IMO regulation. In addition, it authorizes unlimited liability if the spill results from a violation of federal law — operation of a ship while intoxicated, for example. It's not coincidental, some experts think, that the U.S. hasn't had a major spill in the past two years. In 1991, its total spillage was 55,000 gallons, the lowest in 14 years.

Luck plays a part in this. Tanker
Please Turn to Page A5, Column 1

Craft Warning: Unsafe Tankers, Ill-Trained Crews On the Seas Pose Continuing Threat of Oil Spills

Continued From First Page

wrecks, like car or plane crashes, will never be completely avoidable. But the Oil Pollution Act has unquestionably improved "the quality of tankers coming to the U.S.," says Arthur McKenzie of the Tanker Advisory Center, a tanker rating service in New York. David Melville, manager of MRC Marine, an Oxford, England, consulting concern, agrees. While the law's passage raised an outcry in the world shipping industry, where it remains thoroughly unpopular, "it's caused tanker owners to take navigation more seriously in the U.S. than in the rest of the world," he says.

Its liability section, in fact, is but one of a number of the act's reforms scheduled to be implemented in U.S. waters over the next several years. One of the most-publicized requirements, that tankers operating in U.S. waters be equipped with double-hulls, won't take full effect until 2015. Other provisions—establishing tanker-free zones in environmentally sensitive areas and requiring tug escorts in certain busy tanker lanes—are expected to come sooner.

Common Market Considerations

Environmentalists complain that the U.S. Coast Guard, charged with implementing these regulations, is dragging its feet, thus exposing some of the nation's fragile marine ecosystems to unnecessary danger. (The Coast Guard says the matter is complicated and it is moving with due speed.) But many of the Oil Pollution Act's notions are getting a fresh look from other IMO-member nations concerned about the recent rash of accidents. The 12-nation European Community is considering strict new safety rules, including a requirement for double-hull tankers in line with the U.S. timetable and provisions that could put certain areas important to fishing, wildlife and tourism off limits to tankers.

The EC is also considering establishing its own tanker registry to keep tabs on the quality of ships using EC waters while weighing an outright ban on ships older than 15 years. The ban, should it be adopted, would keep about 40% of the EC's own ships from Common Market ports. The IMO says it isn't necessarily opposed to tougher rules but has discouraged nations from acting unilaterally, as the U.S. did.

With 35% of the world's tanker traffic eventually calling at U.S. ports, American officials can't afford to be complacent about the dangers of unsafe ships. Global statistics are sobering:

- At least 20% of the world's tankers are what one London maritime consultant calls "floating garbage"—ships simply not fit to be plying the trade. While BP flunked 30% of the ships it inspected last year, other major oil companies fret that the number could be even higher. Societe Nationale Elf Aquitaine, the French oil concern, says two-thirds of the tankers it put through its own rigorous risk-analysis in 1992 flunked the test.

- Owners are reluctant to scrap unworthy ships. The Institute of London Underwriters says it refused to insure 85% of 133 ships it inspected in 1992 after finding serious structural problems. Yet few of those vessels underwent repairs, and only three were sent by owners to the scrap yard. Oil companies say they often see tankers at sea that they themselves have declined to hire for safety reasons.

- The glut of aging and substandard tankers is continuing to depress charter rates. This in turn deprives the industry of the necessary return on capital to rebuild the aging fleet. The underwriters' institute estimates that 54% of the world's 3,200 tankers were more than 15 years old in 1991; those same tankers accounted for 76% of all tanker losses that year. Meanwhile, the current spot charter rate for a 280,000-deadweight-ton tanker is about \$20,000 a day. Yet industry analysts estimate that rates of \$50,000 to \$60,000 a day are needed to justify spending the \$100 million it costs to build a new tanker of that size.

The prime movers in this rate cutting "are the oil companies," complains Paul Slater, chairman of First International Financial Corp., a Naples, Fla., ship finance company. "It's the old adage, if you don't pay enough, you will get lousy service."

- Most of the world's busiest tanker passages are ungaurded by tug escorts that could rescue a tanker in trouble. The causes: squabbling among countries, industry resistance and the vagaries of international maritime law. As experience in the crowded Strait of Malacca, between Indonesia and Malaysia, recently showed, this often leads to disaster. The collision between the fully-laden oil tanker Maersk Navigator, registered in Singapore, and an empty Japanese tanker last month was but one of numerous recent accidents. Last September, the fiery collision of a Liberian-registered supertanker and a Panamanian-flag cargo ship killed 44 of the 46 crew members. Critics say some other spots—the English Channel, the Strait of Gibraltar and the Bosphorus Strait in Turkey—are disasters waiting to happen.

- Flags of convenience, with notable exceptions, often are flags of danger. Seven of them—Panama, South Korea, Honduras, Malta, Turkey, Cyprus and Indonesia—account for 60 of the 111 total ships lost last year, according to statistics compiled by the Institute of London Underwriters. Their losses, expressed in percentages of total tonnage afloat, were almost three times higher than the world-wide average.

- More than a decade of cost-cutting, spawned by depressed oil prices, has left ships undermanned and the pool of qualified international seafarers depleted. Moreover, the number of sailors coming from flag states with widely uneven standards of maritime training is growing, as the pay differential between seamen from traditional maritime powers and the Third World widens. By one estimate, wage rates for a Filipino crew aboard a standard 40,000-ton tanker are about one-third that of a British crew. While the best of the Philippines' 60-odd maritime schools produce first-rate seamen, the country—among others—is known to have a number of "diploma mills" where standards are less than rigorous. The IMO encourages member states to model their schools upon its own World Maritime University, but it has no authority to impose those standards or to verify graduates' credentials.

Inspections for a Fee

If some governments have been keen to respond to these concerns, tanker operators and charterers around the globe have also taken them to heart. As BP's tough inspection system shows, major oil companies don't always trust the traditional policing of the tanker industry by flag countries or "classification societies," which inspect ships for a fee.

Royal Dutch/Shell Group last year conducted more than 3,500 tanker inspections on its own, flunking about 20% of the class. Chevron Corp. carried out 600 inspections and spares no expense in investigating ships for long-term charter, says David Powell, the company's fleet manager. "We visit the vessel, whether it be in Singapore, Europe or any place else," he says.

For single-voyage charters, Chevron uses its own computer databank of 10,000 vessels, as well as word of mouth, to determine whether an inspection is necessary: about a third of the time it is. "In today's climate you're risking your corporation when you put your cargoes on board the vessels of others," says Mr. Powell.

OMI Petrolink Corp., a Houston company that operates tankers in the Gulf of Mexico, recently phased out all ships except those of 1989 vintage or newer, says

Wynn Wyman, the company's chief executive officer. "Our customers . . . are getting to the point that they aren't very interested in early-1980s ships."

Chevron, among others, doesn't stop at the hull. More and more companies are asking questions about the quality of the crew and officers. Chevron fears having crew members of too many nationalities aboard one ship, because communication problems can arise in a crisis.

Tanker safety concerns are also prompting overhaul of classification societies, which have been the primary inspectors of ship construction and maintenance for more than 100 years. The London underwriters' institute's 1992 inspections of 133 ships, for example, were part of an insurance-industry trend to dispatch its own inspectors to high-risk ships rather than rely solely on the societies' investigations.

As a result, major societies are phasing in new inspection procedures this year that will increase the extent of tanker surveys.

And while there is little talk at the moment of imposing the U.S. Oil Pollution Act's unlimited liability provisions abroad, players in the global marine-insurance trade display every sign of clamping down on substandard shipping themselves. With a long shakeout in the marine-insurance industry having shrunk the pool of casualty and liability underwriters, "we are in a position to be incredibly ruthless" with ship owners with a poor safety history, says Roger Nixon, an official of the London underwriters' institute. He cites London hull rates that are already 25% higher, and cargo rates 10 times higher, for identical new policies written on similar ships.

"The differential will continue to grow between what the good owners pay and what the bad owners pay," says Mr. Nixon.

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United States Senate

COMMITTEE ON ENVIRONMENT AND PUBLIC WORKS
 WASHINGTON, DC 20510-6175

December 21, 1992

The Honorable William K. Reilly
 Administrator
 Environmental Protection Agency
 Washington, D.C. 20460

Dear Mr. Reilly:

We are writing to express our concern about the draft proposed regulations for onshore facility spill response plans that are being prepared by the Environmental Protection Agency to implement Section 4202 of the Oil Pollution Act. Although these regulations will be issued in proposed form and will be subject to public review and comment, they have the practical effect of interim final regulations because facility owners and operators must comply with them by February 18, 1993. Because these proposed regulations issued at this late date have the practical force of a final rule, we are concerned about their economic and competitive impact on the independent petroleum sector.

The National Planning and Response System established under the Oil Pollution Act requires facility owners and operators to submit plans that if implemented, are capable, to the maximum extent practicable, of promptly and properly removing oil and minimizing environmental damage from a "worst case" oil spill without the active participation of the federal government. The Conference Report states that the intent of the Act is "to create a system in which private parties supply the bulk of any equipment and personnel needed for oil spill response in a given area." However, at the same time, the Congress was well aware that there would be large variation in the ability of facilities to meet these needs through planning and contracting with private oil spill response firms, based upon the "practical and technical limits of the spill response capabilities of individuals owners and operators." The Congress chose to use the term "to the maximum extent practicable," rather than the term "to the maximum extent possible," because it recognized that some facilities would be placed at a serious competitive disadvantage by use of the latter term. Accordingly, the Oil Pollution Act requires that each facility owner or operator provide only those spill response resources that are both technologically and practicably feasible and economically reasonable.

The Honorable William K. Reilly
 December 21, 1992
 Page 2

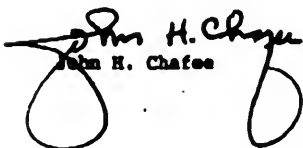
Under the National Planning and Response System, the final responsibility for removing "worst case" oil spills lies fully and unequivocally with the federal government. In establishing this mandate, the Congress further recognized that the practicable limits of facilities to provide oil spill response planning and resources would vary greatly.

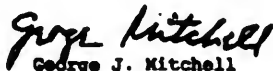
The draft proposed rule appears to fail to recognize adequately the considerations of practicability that the Congress intended with respect to facility response plans. The rule adopts the approach developed in a Coast Guard regulatory negotiation for vessel response plans as a means of determining the amount of resources required for onshore facilities. Practicability considerations for vessels may well be different than those for facilities, which are far more variable than vessels. The Congress understood that facilities differ greatly, and that economic practicability must be considered in applying the response plan requirements to individual facility owners and operators.

It is important that the EPA establish a reasonable, yet effective requirement for equipment and personnel without imposing costs uniformly on facility owners or operators, which would seriously impair the competitive viability of the independent sector of the petroleum industry. The Oil Pollution Act requires that these concerns be taken into account in developing facility response plan regulations.

We look forward to hearing from you on this important issue.

Sincerely,


 John H. Chafee


 George J. Mitchell

TESTIMONY OF
THE NATURAL RESOURCES DEFENSE COUNCIL

BEFORE

THE HOUSE SUBCOMMITTEE ON COAST GUARD AND NAVIGATION
OF THE COMMITTEE ON MERCHANT MARINE AND FISHERIES

ON

THE IMPLEMENTATION OF THE OIL POLLUTION ACT OF 1990,
SECTION 4202 (a)(b) REQUIRING
OIL-CARRYING VESSELS TO CARRY
SPILL RESPONSE EQUIPMENT

March 18, 1993

Prepared By:

Nina Sankovitch, Esq.
Natural Resources Defense Council

Good afternoon Mr. Chairman and members of the Committee. My name is Nina Sankovitch, and I am a senior program attorney with the Natural Resources Defense Council ("NRDC"). NRDC greatly appreciates this opportunity to offer testimony on the requirement of the Oil Pollution Act of 1990 that oil-carrying vessels carry spill response equipment and on the proposed rule issued by the Coast Guard last September to fulfill that requirement.

NRDC has worked on the issue of oil pollution for over twenty years and in December 1992 released a report entitled **Safety at Bay**, in which we reviewed the status of oil spill prevention and response in the United States and implementation of the Oil Pollution Act of 1990 ("OPA").

I. The Need for Prompt Response Following an Oil Spill

Historically, oil spill cleanup in the United States has not been very effective. A report completed by the Office of Technology Assessment in 1990 concluded that only 10 to 20 percent of oil spilled is typically recovered. For example, of the 11 million gallons spilled by the *Exxon Valdez* in Prince William Sound, less than ten percent was recovered.

The oil that is left unrecovered following a spill is dispersed through the environment, polluting air and water resources, wildlife, sediments, and shorelines. For example, following the *Exxon Valdez* grounding on Bligh Reef, forty to fifty percent of the spilled oil ended up on the beaches and rocky shorelines of Prince William Sound.

One of the reasons for the low rate of recovery has been the failure to promptly deploy spill containment equipment. Oil rapidly spreads or sinks (depending on the gravity of the oil) through water, moving out across the waves in slicks and spreading down through the water column. Once the spilled oil has started to spread, it is difficult to pull back and contain within booms. Without sufficient containment of oil within booms, it is impossible to effectively remove the oil from the surface of the water through the use of skimming devices. Time is therefore of the essence in the deployment of the initial oil spill containment booms.

Booms have not been promptly deployed following oil spills largely because the necessary equipment has not been available and ready to go as needed. To again use the *Exxon Valdez* spill as an example, following the spill, spill response equipment that was listed in Alyeska's contingency plan as readily available was in fact scattered--some of it not even within the Prince William Sound area--and was in various states of repair and disrepair. Even under the Coast Guard's Interim Final Rule on Vessel Response Plans, initial (or so-called "Tier One") equipment need not be on scene for 12 hours in a higher volume port area and 24 hours for other port areas.

II. OPA's Requirement for Vessel-Carried Equipment

The Oil Pollution Act of 1990 sought to improve the rates of oil recovery following a spill in U.S. waters by requiring that "vessels operating on navigable waters and carrying oil or a hazardous substance in bulk [must] carry appropriate removal equipment." OPA, Section 4202(a)(6). "Removal" is defined under the Act as "containment or removal of oil or a hazardous substance from water or shorelines or the taking of other actions as may be necessary to minimize or mitigate damage...." OPA, Section 1001(30).

Legislative history to the Act demonstrates the clear intent of Congress that vessels be prepared to immediately deploy oil containment and removal equipment on the water following an accident leading to loss of oil into the environment. As Senator Bentsen stated during Senate agreement to the conference report on the House bill: "The bill requires that oil spill containment equipment be carried on board oil tankers....No more waiting until the right equipment and right people can come from another part of the world...." 136 Cong. Record S11545 (August 2, 1990). And Senator Chafee stated: "If we have learned one thing about oil spills, it is that immediate response is essential to prevent widespread impacts...." *Id.* at S11537-8.

III. The Coast Guard's Proposed Rule on Vessel-Carried Equipment

The proposed rule for vessel-carried spill response equipment that was issued by the Coast Guard in September 1992 only requires that equipment capable of cleaning up to 12 barrels of oil from the deck be carried on board the vessel. The Coast Guard does acknowledge in the preamble to the proposed rule that some vessels currently carry on-water spill response equipment and that others will choose to do so in the future to meet the vessel response planning requirements; nevertheless, "the Coast Guard does not believe that requiring all vessels to warehouse oil spill response equipment is practical, economically feasible, or always compatible with the safe operation of the vessel." 57 Federal Register 44915 (September 29, 1992).

The Coast Guard's proposed rule is based on the work of a Negotiated Rulemaking Committee convened by the Coast Guard last January. The Committee was convened to assist the agency in its duty under the Oil Pollution Act to develop regulations for vessel response plans and vessel-carried spill response equipment.

NRDC was the sole environmental representative on the Negotiated Rulemaking Committee; other members included thirteen representatives of the shipping and oil industry, four representatives of the spill cleanup industry, one union representative, two representatives from the Regional Citizens Advisory Councils set up in Alaska under the Oil Pollution Act, and four states (California, Maryland, Wisconsin, and Louisiana).

The purpose of the Committee was to develop consensus among the different interests represented on four specific issues raised by the Coast Guard: defining the term "adverse weather" for purposes of evaluating response equipment; defining the term "maximum extent practicable" for purposes of determining limits to the amount of equipment that a vessel owner or operator must contract for and the time frames in which that equipment must be deployed; developing an evaluation system for spill response contractors; and making a determination as to the amount and type of spill response equipment to be carried by vessels.

We broke up into four working groups to discuss the four issues. I participated on the carriage of equipment working group to the extent that I could, given that I was one person trying to cover four issues. The Coast Guard representative to the equipment working group made it clear from the beginning that the Coast Guard did not consider the carriage of on-water spill response equipment to be safe or feasible. The Coast Guard and members of the shipping industry argued that OPA's mandate for vessel-carried response equipment could be met by requiring that equipment adequate to control and cleanup on-deck spills be carried by vessels.

Although NRDC agreed that deployment of spill cleanup equipment by the crew on board tankers could endanger the safety of that crew, we argued that at the very least booms should be carried on board, to be deployed by the first help that arrived to the vessel in the event of a spill, be it a vessel of opportunity, the Coast Guard, or a spill cleanup contractor.

In addition, we argued that fledgling technology existed to allow safe deployment of equipment by a crew and that such technology should be supported and improved to ensure its feasibility in adverse weather conditions.

Finally, we pointed out that the comments received on the initial Advanced Notice of Proposed Rulemaking included information about barges that do carry and deploy their own oil containment equipment following a spill. Thus at the very least, barges could be required to carry spill response equipment.

No consensus, however, could be reached on the issue of vessel-carried booms, skimmers, or other on-water cleanup equipment by either the working group or the Negotiated Rulemaking as a whole. The Final Agreement of the Committee, the contents of which NRDC wholly supports, was limited to requiring certain types of on-deck cleanup equipment (as well as options for a towing package and oil spill tracking devices); the Committee did not make a recommendation for or against the carriage of on-water cleanup equipment, such as booms or skimmers.

It was recognized by the Committee and the Coast Guard that in fact certain vessels might choose to carry spill response equipment in order to ensure that they could meet the time frames for equipment deployment set forth under the regulations on Vessel

Response Plans. For example, an inland barge traveling miles from the nearest spill contractor or oil facility might carry boom to ensure that it could meet the requirement for First Tier equipment deployment as required under Vessel Response Plan regulations. (All parties did agree that deployment of booms and skimmers by the vessel crew should not occur where it would endanger the safety of the crew).

IV. NRDC's Recommendations for Vessel-Carried Equipment

NRDC continues to support the clear language of the Oil Pollution Act requiring that vessels carry equipment for responding to oil spills on water. At the very least, we recommend that boom adequate to commence initial containment of an oil spill be warehoused on-board all oil-carrying vessels. Carrying spill response equipment provides assurance that the equipment necessary for the initial booming is ready and available for deployment as soon as help—in any form—arrives. The warehousing of equipment that can be deployed by cleanup crew or passing vessels is especially useful for those vessels traveling to areas where rapid arrival of shore-based equipment will be difficult.

Requiring carriage of on-water spill removal equipment will not necessitate its deployment by vessel crew, if such deployment is unsafe. Technology does exist, however, that appears to allow safe deployment from on-board crew. It is not clear that currently such technology is operable under adverse weather conditions, but the groundwork for a useful technology has been laid. Now the technology must be fostered and improved through continued research and development. (I have with me the most recent of many prospectuses I have received from companies that have developed containment booms that can be readily deployed from a vessel; I will leave this prospectus with the Committee).

Thank you for this opportunity to offer comments on OPA's requirement for vessel-carried equipment and on the Coast Guard's proposed rule for carriage of equipment.

STATEMENT OF PETE BONTADELLI, ADMINISTRATOR, CALIFORNIA DEPARTMENT OF FISH AND GAME OFFICE OF OIL SPILL PREVENTION AND RESPONSE, BEFORE THE SUBCOMMITTEE ON COAST GUARD AND NAVIGATION, COMMITTEE ON MERCHANT MARINE AND FISHERIES, UNITED STATES HOUSE OF REPRESENTATIVES, ON IMPLEMENTATION OF THE OIL POLLUTION ACT OF 1990, SECTION 4202(A)(6).
MARCH 18, 1993

My name is Pete Bontadelli. I am the Administrator of the Office of Oil Spill Prevention and Response for the State of California.

In 1990, the California Legislature enacted the Lempert-Keene-Seastrand Oil Spill Prevention and Response Act, establishing this new Office within the California Department of Fish and Game. We have broad powers in areas of spill prevention and response in marine waters, and have established programs in oil spill prevention and response planning, enforcement, tanker safety, wildlife and natural resource rehabilitation, and oil removal/cleanup operations. The Office is also responsible for the review of Federal regulations as they impact our areas of responsibility.

For many reasons, Federal regulations in the areas of oil spill prevention and response are critical to State and local governments. Most regulating agencies agree that consistency and compatibility among the various levels of government are key to successful planning and execution of emergency response operations. Additionally, "consistency" and/or compatibility addresses concerns of the regulated community that various levels of government may invoke substantially different rules and regulations from one another even when dealing with the same subject.

Aside from consistency and/or compatibility, State and local government agencies having oil spill prevention and response responsibilities carefully watch Federal proposals in oil spill prevention and response which fall within the exclusive purview of the Federal Government. There are many facets of the area of oil spill prevention and response which are of tremendous concern to State and local governments, but which, by statute, preempt State and local control. One of these areas appears to be the equipment carriage requirements for vessels subject to the provisions of the Oil Pollution Act of 1990 (OPA 90).

In a recent Notice of Proposed Rulemaking, the Coast Guard issued a Federalism Assessment citing exclusive jurisdiction in the area of vessel equipment. It states:

"This proposed rule would establish regulations requiring certain vessels to carry discharge removal equipment. In Rav v. Atlantic Richfield, (435 U.S. 51, 98 S.Ct. 988, [1978]), the Supreme Court found that vessel design and equipment standards fall within the exclusive province of the Federal Government. The OPA 90 Conference Report explicitly says that provisions in Section 1018 of OPA 90 preserving certain State authority are not meant to disturb this Supreme Court decision (House Conf. Rep., p. 122). Therefore, the Coast Guard intends this final rule to preempt State action addressing the same subject matter."
For these two reasons, following Federal regulatory proposals is an essential part of doing business for states involved in oil spill prevention and response.

Because of our need for involvement in the Federal regulatory process, the State of California agreed to participate as a State representative to the Coast Guard's Negotiated Rulemaking Committee on Vessel Response Plans and Equipment Carriage Requirements last year. This involved extensive time, effort, and expense to assist the Coast Guard in the development of regulatory proposals which were to be issued as Notices of Proposed Rulemakings.

Page Two

During the Negotiated Rulemaking process, the Committee was given four distinct areas to address:

- Vessel Response Plan requirements
- Response Contractor requirements
- Vessel Equipment Carriage requirements
- Drills and Exercises/secondary carriers

It is important to understand that the objective of the Negotiated Rulemaking Committee, and I believe the objective of the Coast Guard in meeting the Congressional mandate of the OPA 90, cannot be accomplished without movement of all of the interrelated regulatory packages concurrently; they are truly interrelated.

To demonstrate just how interrelated these packages are, it is important to understand that the Committee agreed to reduce the amount of containment and response equipment carried aboard a tank vessel in exchange for tight assurances that shore-based equipment would be available in a timely and effective manner to handle planned spill contingencies.

Speaking from a coastal State's perspective, it is impossible for us to fully comment on the existing interim final rule for vessel response plans when we do not know what the Coast Guard is proposing for vessel equipment carriage requirements. For example, if the Coast Guard chooses to require only the emergency towing system recommended by the International Maritime Organization, we would be hard-pressed to accept the current shore-based response structure in light of the most recent disaster in the Shetland Islands. If the Coast Guard chooses to require the emergency towing package which has been an industry standard for years for tankers using Prince William Sound, we feel more confident that shore-based response efforts can play an effective and timely role in spill response, and instances such as the one occurring in the Shetland Islands become more manageable from a State contingency response planning standpoint.

Because California regulations will require deployment of shipboard containment equipment during all oil transfers, and because we have had such close involvement in the Area Plans process, we are generally satisfied with the current Interim Final Rule for Vessels. However, we are only satisfied to the extent that the Coast Guard move forward expeditiously with the Equipment Carriage requirements, and adopt the recommendations of the Negotiated Rulemaking Committee.

If the Coast Guard finds that existing or new technologies, for example, systems similar to "Oil Stop", will further enhance spill response if deployed from a ship, then it is incumbent upon the Coast Guard to explore such technologies in an effort to promote the best achievable protection of our coastal and marine resources and recommend their inclusion in future regulatory packages.

I also feel that regulations issued by any Federal agency are dynamic to the extent that revisions must be made from time-to-time to accommodate these new technologies and changes in the industry as a whole. At the Negotiated Rulemaking Committee, there was agreement that these issues would be revisited periodically, that both the Coast Guard and the affected community could address new developments and changing needs not less than every five years.

In this vein, we are certain that the entire area of vessel salvage must be revisited in the very near future to address response shortfalls for both equipment and vessels, hopefully, using information obtained from the National Academy of Sciences review of the subject.

Page Three

However, I urge you to move ahead now with the proposal for vessel equipment carriage requirements. There will be opportunities both with this review of salvage requirements and when the U. S. Coast Guard initiates their rulemaking on interim vessel standards for single-hull vessels to address new or additional equipment. It has been almost one year since the Negotiated Rulemaking Committee gave their recommendations to the Coast Guard; it is time to get on with the entire proposal as we now know it, with a commitment to keep an eye to the future for new systems that can enhance the safety and protection of our coasts.

**Richard Lazes' Testimony Before the
Congressional Subcommittee on Coast Guard
and Navigation**

Respectfully Submitted on March 18, 1993
To the Honorable Billy Tauzin, Chairman

Good afternoon, I am Richard Lazes, President of Oil Stop, a company located in Harvey, Louisiana, which develops oil pollution control and containment equipment. It is a pleasure to be here today to provide this testimony.

Rapid response is critical to the success of any oil spill response effort and the carriage of booms and skimmers on board tankers is the only sure way to guarantee rapid response to oil spills. This fact is understood by experts in the field and has been proven time and time again on oil spills worldwide.

Congress recognized the need for rapid response and as a result included section 4202, Part A in the O.P.A. '90 legislation. This section requires "that all vessels that operate in U.S. waters and carry oil or hazardous substances in bulk as cargo must carry appropriate removal equipment that employs the best technology economically feasible and that is compatible with the safe operation of the vessel".

A recent report entitled "Investigation of Self Help Oil Spill Response Techniques and Equipment" was prepared by Battelle Memorial Institute for the U.S. Department of Transportation and the U.S. Coast Guard. This report clearly shows that the first few hours after a spill occurs are critical to any oil recovery effort. Battelle ran hundreds of computer models simulating various spill scenarios for different size tankers. They considered many variables including: tank size, number of tanks penetrated, size of damaged section, relative height of penetration to water line and cumulative oil volume in penetrated tanks. The results indicate that during the first hour after a spill occurs, on average, one quarter of the oil had escaped from the damaged tanks and weather permitting boom could effectively contain the remaining three quarters of the oil that had not yet escaped. By the fourth hour, after an accident, more than half of the samples had lost over ninety percent of the oil from the damaged tanks. After twelve hours, (the minimum response time required by the proposed regulations for high volume ports), over ninety percent of the tankers had lost all of the oil from damaged tanks and after twenty-four hours (the response time required by the proposed regulations for all locations other than high volume ports) all of the samples had lost one hundred percent of the oil from the damaged tanks.

Clearly these findings support the need for immediate deployment of booms and skimmers. The report concludes, "the results suggest that a pumping solution in conjunction with some form of containment has the most promise in the near term and it is recommended that research pertaining to on board self-help countermeasures focus on the pumping-containment category of concepts".

There are several factors that make immediate containment critical to effective removal of spilled oil:

1. Oil, when contained in a small area near the ship is much thicker and as a result skimmers work more effectively.
2. Once oil travels away from the tanker significantly more equipment is needed to surround and control the oil. Currents quickly spread the oil over large areas making it difficult or impossible to contain.
3. As oil travels away from the tanker it forms a thin slick which rapidly emulsifies with water decreasing skimmer efficiency and increasing the amount of water collected by skimmers. Soon it is transformed into chocolate mousse further decreasing the efficiency of skimmers.
4. Storage of recovered oil is increasingly difficult once oil has traveled away from the tanker, as the tanker itself may well be the largest and most convenient storage vessel for recovered oil.

During the Reg. Neg. proceedings a concern was raised regarding the potential safety hazards associated with putting men overboard to deploy booms and skimmers if they were carried on board tankers. This concern did not recognize the fact that this safety issue could be resolved by warehousing this equipment on board. Warehoused equipment can be deployed by the first help that arrives on the accident scene, whether vessels of opportunity, the Coast Guard, or a spill cleanup contractor.

The Coast Guard has issued a proposed rule that interprets the legislation to require that tankers carry only response equipment for use on "on deck spills" not "over the side spills". The proposed rule requires only "sorbents, scoops, mops, buckets, and small portable pumps". This proposed rule is redundant and is so stated in the proposed rule: "tankers already are in substantial compliance with the proposed requirements for on board equipment" and this will have little effect on mitigating damage from over the side oil spills. Furthermore, this interpretation is contrary to the intent of the legislators who drafted this landmark legislation and in conflict with the mandate of the public and the new administration, which shares this committee's concern for safeguarding the environment.

Nevertheless, the safety concerns voiced by the shipping industry are important, particularly as they relate to crew safety issues. In fact, it was as a result of these safety concerns that this new tanker **Self-Help System (S.H.S.)** was developed. I believe that the essence of the O.P.A. '90 legislation was to create a climate that would encourage industry, hopefully American, to develop innovative technology that would provide for safe and cost effective solutions to the problems associated with oil spills. Since the U.S. imports over half of its oil consumption it is absolutely critical that we find safe and efficient ways to transport oil without endangering the environment.

In response to safety hazards that might result from putting men overboard to deploy booms and skimmers we developed this Self-Help System (S.H.S.) which employs the

Auto Boom, an automatically inflating boom that rolls up flat on a reel for compact storage. This system can be deployed by one man without leaving the deck of the tanker. By pushing a single lever one man can deploy the boom and position it around the spilled oil with the aid of a remote controlled boom deployment vessel. The radio controlled technology that remotely controls the boom deployment vessel has been around for many years and has proven highly reliable when used by oil companies for sub-sea exploration and work on sub-sea pipe lines. These remote controlled vessels known as R.O.V.'s are capable of deploying booms and skimmers around a leaking tanker in minutes instead of waiting hours or days for land based equipment to arrive. Once the spill is contained, a skimmer is lowered into the water to begin skimming the oil and pumping it back into the tanker's own slop or ballast tanks or into flexible storage bladders, if desired. At the time of the Exxon Valdez accident, booms and skimmers were available and sea conditions were calm, however this equipment was stored in various warehouses dockside. As a result, none of this equipment arrived at the scene of the accident until the next day, by which time the oil had spread over many square miles making it impossible to contain or remove.

The remotely operated boom deployment vessel is equipped with a remote controlled fire fighting assistance monitor and is also equipped with floodlights for nighttime operations. The fire fighting assistance monitor is equipped with a 180 degree remote controlled directional system capable of pumping a high volume stream of water to a one hundred foot head.

I would like to emphasize that much of this technology is not new. Automatically inflating boom has been around for years and is available from several manufacturers both domestic and international. It is only the combination of this boom with the radio controlled boom deployment boat that makes it unique.

Much consideration has been given to packaging this system, it is compact and easily transportable so that it does not interfere with the tanker's normal operations. The entire system is skid mounted and can be easily installed on any tanker in a few hours. The boom fits compactly on a reel that is placed on the deck of the tanker. The R.O.V. can be lowered into the water using the ship's existing hose handling cranes, spare supplies handling cranes or from a dedicated davit.

Crew manning is another important consideration that was raised by the Reg. Neg. Committee. We have taken into account that tankers have a minimum amount of crew available, particularly in an emergency. As a result, we have designed a system which can be operated by one man, if necessary. The Battelle report investigates the issue of tanker manning and concludes that "if properly engineered technologies were available crews would be available to operate the technologies if they could be used from the ship". They go on to state that "the results of the analysis presented in this chapter suggest that self-help oil spill countermeasures are a viable technology from a human factors perspective, although further engineering is required for unobtrusive introduction aboard tanker ships".

To be effective, any system requires a certain amount of operator training. This system is extremely operator friendly and does not require any special skills to operate. We have developed a straight forward training safety and maintenance course and are working with the

major maritime schools to jointly develop a spill control course that includes training on the self help system as part of their curriculum. The Coast Guard Academy in Connecticut and the Coast Guard Training Center in Virginia offer spill control classes. Mass. Maritime has recently begun a spill control course. We are in discussions with these schools and others including Kings Point, Calhoun Maba School, Maritime College State University of N.Y., Houston Marine Training Service and the California Maritime Academy. Once participants complete these courses we anticipate that the Coast Guard will test them and issue an endorsement for "Pollution Control Operator" onto their respective licenses.

While developing this Tanker Self-Help System we have placed a special emphasis on cost. We are acutely aware of the financial burden being placed on the shipping industry by the O.P.A. '90 Regulations and have developed a system that will pay for itself by reducing oil spill cleanup costs and hopefully result in reduced insurance costs. Admiral Henn, in his testimony before this committee, estimated that the financial impact on the shipping industry resulting from O.P.A. '90 Regulations will exceed nine billion dollars. For less than five percent of that amount the Tanker Self-Help System including booms, skimmers and remote controlled boom deployment vessels can be installed on every tanker that travels in U.S. waters. The anticipated average annual cost per vessel will amount to under \$50,000.00 based on a ten year amortization schedule. Carrying boom on board tankers may reduce the costs associated with standby boats now needed to meet the one hour response time required by the proposed rules. To the extent there is a need for an interim step to double hulls between now and the year 2005 to make it safer to use single hulled tankers during this period, this equipment should assist in this regard. In addition to protecting the U.S. coastline, this equipment will have a positive impact on the environment worldwide as it will be available for rapid response to spills overseas, as well. The U.S. has an opportunity to set a standard for the world to follow by promoting technological solution to environmental pollution, a problem that affects the entire world.

It is interesting to note that several U.S. barge owners, have already begun to carry boom on board their barges despite the fact that they are not required to do so. We have spoken with some of them and they have assured us that this has not created an unreasonable financial burden on them and that they have used the booms on several occasions and found them to highly effective. This application does not require remote controlled systems as the barge owners themselves have found innovative ways to deploy this boom on inland waters where they operate.

In the end, the most basic flaw, in the proposed O.P.A. '90 Regulations, is that they do not do enough to provide tanker companies adequate incentive to respond rapidly to oil spills. The twelve and twenty-four hour response times permitted are wholly inadequate. There must be an economic incentive to encourage rapid response and to prevent environmental damage from oil spills. Even unlimited liability insurance will not prevent spilled oil from reaching our beaches and contaminating fish and wildlife, requiring that safe and effective response equipment be carried on board tankers would dramatically reduce response time. It is our hope that these hearings will generate a prompt and thorough evaluation of this technology, that will result in practical and reasonable requirements for tanker owners to guarantee that they will

take the necessary precautions to prevent against unnecessary damage to the environment resulting from oil spills.

It is imperative that the U.S. Government continue to encourage and support private industry to protect the environment by developing effective and reasonably priced solutions to the problems associated with tanker spills, so as to assure the safe transportation of petrochemicals in U.S. waters.

OIL STOP, INC.'S - TANKER SELF HELP SYSTEM FOR OIL POLLUTION CONTROL & FIRE FIGHTING

SYSTEM COMPONENTS

In order to facilitate immediate response to oil tanker spills Oil Stop, Inc. has developed an on board boom deployment, skimming and fire fighting assistance system that employs a remote operated vessel (R.O.V.). This R.O.V. can be activated by one man without leaving the deck of the tanker, immediately at the onset of a spill to begin deployment of the Auto Boom™ (an automatically inflating oil containment boom). Once the spill is surrounded, a high volume archimedes screw type skimmer is lowered into the water to begin pumping recovered oil back into the tanker's own slop tanks, flexible storage bladders or, as a last resort, into the ballast tanks. The entire system fits compactly on the deck of the tanker and is powered by a portable diesel powered hydraulic prime mover which is independent of the ship's power.

This Oil Stop Self Help System (S.H.S.) is compact, and includes the following components:

1. **A Remote Operated Boom Deployment Vessel (R.O.V.)** - Size: 18' Long X 9' Wide X 4' Deep, weighs 6,300 lbs. The R.O.V. is constructed out of aluminum. It is powered by a 300 H.P. Caterpillar Diesel Engine which utilizes a North American Marine Water Jet for propulsion, producing 2,350 pounds bollard pull. This vessel also has a remote operated fire fighting assistance monitor and searchlights, for unmanned fire fighting and oil containment operations at night. The fire monitor can pump a high volume stream of water to a 100' head. This can be adjusted to a "fogging" discharge, to create a cooling protective umbrella. The fire monitor is equipped with a 180° remote controlled directional system. The R.O.V. has a maximum speed of 30 knots and can be used for rapid personnel transfer as well.

2. Up to 2,000 feet of **Offshore Model Auto Boom™**. The Auto Boom™ is an an automatically inflating oil containment boom. It is extremely compact, with 1,000 feet of boom fitting on a standard 7' diameter storage reel. Larger reels can accommodate up to 3,000 feet of Auto Boom™. The Auto Boom™ is automatically inflated from a single air source located on the R.O.V. The unique design of the Auto Boom™ makes it possible to inflate long continuous lengths of boom from a single air source while employing 10' individually sealed inflation chambers that are isolated from one another. In the event that one section is damaged, adjacent sections remain intact and fully inflated.

The Auto Boom™ is constructed in 100 foot long sections with A.S.T.M. Quick Connectors attached to both ends. This feature makes it possible to permit boat passage in and out of the contained area by simply removing two quick release pins and uncoupling the mated connectors.

After the recovery effort is complete (or after drills are conducted) the boom is easily retrieved onto the storage reel. This operation requires two men, one to operate the hydraulically powered reel and the other to open and shut the deflation valves allowing the boom to release the air and lay flat on the reel. After retrieval the reel is covered with a form fitting, weather tight tarpaulin to protect it from the elements.

3. **Storage/Deployment Reels** for the Auto Boom™, are constructed of marine grade aluminum, skid mounted and powered by a hydraulic motor. These reels can deploy the Auto Boom™ at a rate of 100 feet per minute using only one operator.
4. A diesel powered **Hydraulic Prime Mover** is skid mounted and operates the storage/deployment reels, as well as the skimming system. A 40 H.P. diesel engine drives the prime mover and is equipped with a hydraulic starting system and spark arrestors.
5. The **Skimming System** consists of an archimedes screw type pumping unit, attached to a self adjusting weir unit with adjustable floats and support framework. Connected to the skimmer is an oil discharge hose with attached floats, enabling the skimmed oil to be pumped back to the tanker, or to an emergency tank storage vessel. A range of skimming pumps is available with capacities starting at 25,000 gallons per hour.

The Self Help System (S.H.S.) can be positioned amidship on the tanker, so that the cargo hose lifting crane can be used to deploy the equipment overboard to either side of the distressed ship. If desired, the system can be stored on a dedicated davit on the stern of the tanker.

Immediately at the onset of a spill the R.O.V. is lifted from its cradle and lowered into the water with the Auto Boom™ attached by a towing bridle. A flexible air hose connects the boom to the air blower mounted in the R.O.V. Once the R.O.V. settles in the water, our automatic release system separates the boat from the crane hook. The R.O.V.'s engine is then remotely started, and the boat pulls the boom around the spill, while the on board reel operator deploys the boom over the side of the ship by pushing one control lever on the deployment/storage reel. When all of the boom is in the water, the on deck

operator guides the boom into position around the oil spill using a radio controlled device, then remotely drops an anchor if the ship is aground. If the ship is drifting the trailing edge of the boom is secured to the tanker and the R.O.V. is used to maintain the appropriate position of the leading end of the boom relative to the tanker.

Once the oil is contained, the skimming system is lowered into the water, complete with hydraulic operating hoses and floating oil discharge hose, where it commences skimming the spilled oil and pumping it back into the ship's slop or ballast tanks. The pump has more than enough pumping head to lift the recovered oil back onto the tanker. The on deck operator adjusts the speed of the skimmer from the control console.

In order to eliminate the potential for hazardous vapors collecting on the deck of the tanker and to eliminate any potential problems associated with static electricity caused by over the top pumping into the tanker the Oil Stop S.H.S. will include a manifold that is connected into the tanker's own piping system. Recovered oil will be pumped through this manifold in order to take advantage of the tanker's inert gas system.

Special care has been taken to assure that all mechanical components of Oil Stop's S.H.S. are non-sparking and the diesel engines that power the R.O.V. and the prime mover that provides hydraulic power for the skimmer are equipped with explosion proof spark arrestors. All boom connectors are constructed out of non-sparking aluminum.

The Oil Stop S.H.S. is designed to require a minimum amount of training and maintenance for crew members and is compatible with most other commercial containment/removal systems on the market today including those used by M.S.R.C., N.R.C. and most major Co-Ops. The boom employs A.S.T.M. approved universal connectors and all hydraulic and discharge hoses are equipped with standard fittings. This feature makes it possible for spill response personnel, once they arrive on the scene, to add their equipment to the existing boom and skimmers, already in place.

The main purpose of the Self Help System (S.H.S.) is to provide immediate response to an oil spill, by containing and collecting spilled oil close to the tanker. By providing this immediate response potential damage to the surrounding environment is reduced or eliminated. This system is intended for use as a first response effort and is designed to compliment land based spill response equipment and personnel, not to replace them.

OIL STOP, INC.'S - TANKER SELF HELP SYSTEM FOR OIL POLLUTION CONTROL & FIRE FIGHTING ON BOARD OIL TANKERS AND BARGES

INSTALLATION, TRAINING & MAINTENANCE OVERVIEW

All of the components of Oil Stop's Self Help System (S.H.S.) are skid mounted. Each skid includes lifting points and forklift channels for easy movement either by crane or with a forklift. The system is composed of three compact modules: The Remote Operated Vessel (R.O.V.); The Boom Reel; The Hydraulic Prime Mover and Skimmer Skid. Maximum weight of each individual module is under 3 tons. The three skids can be installed on the tanker using the ships' cargo hose lifting cranes in less than one hour. It can be permanently installed or temporarily placed on the tanker deck when the tanker is traveling through U.S. waters, if desired. Once properly secured to the deck the system is immediately operational.

MAINTENANCE

The S.H.S. is designed for low maintenance so that it does not pose any unnecessary burden on the ship's personnel. All metal components are manufactured out of marine grade aluminum or finished with a 3 part epoxy marine grade coating. The boom has been tested after prolonged storage (over one year) and was completely operational. It is recommended that the diesel engine on the hydraulic prime mover and the R.O.V. be started and test run at the same intervals as the engines on the life saving boats. Drills that include deployment of boom and skimmers are recommended semi-annually.

TRAINING/MAINTENANCE PROGRAMS

The Oil Stop S.H.S. requires a minimum of crew training due to its user friendly design. We recommend a five day course that includes instructions in operation, testing, trouble shooting and maintenance. The S.H.S. training program also includes background training in general and accepted oil pollution control techniques. These courses will be made available by Oil Stop, Inc. and will be presented by nationally known spill response experts who presently conduct spill response training programs for major oil companies and Co-Ops. The curriculum will be made available to national maritime schools including Mass Maritime, Kings Point, Maritime College, State University of N.Y., Texas A & M, Houston

Marine Training Service and California Maritime Academy. The course will include both classroom instruction, as well as hands on training with the equipment. Follow up material will be provided in the form of training and maintenance manuals and videotapes. Once participants complete these courses we anticipate that the Coast Guard will test them and issue an endorsement for "Pollution Control Operator" onto their respective licenses. The course will be divided into ten, four hour classes, both in the classroom and in the field:

CLASS #1: GENERAL OVERVIEW OF MECHANICAL OIL SPILL RECOVERY DEVICES

This class includes an introduction to booms, skimmers, transfer pumps, oil/water separators and oil storage containers. We will include technical and commercial information on different technologies that are currently available. This section will also focus on the hydro dynamic forces affecting oil spills as they spread due to the affects of gravity, wind and current. Special attention will be focused on boom positioning for different sea and weather conditions. Factors which limit the performance of mechanical recovery devices will be analyzed, as well. Visual aides (including slides and videotape) will be employed to provide the students with a reference and to give them an idea of the logistics involved in fighting actual spills.

CLASS #2: GENERAL OVERVIEW OF THE SELF HELP SYSTEM AND SAFETY PROGRAM

This class provides a breakdown of all system components and safety procedures. This class will focus on each individual piece of equipment and how they interface to make up the complete system and safety precautions associated with each component. The following topics will be included:

1. Transportation of the system and installation on the tanker.
2. Basic operating principles.
3. Safety Precautions
 - A. Grounding procedures for the prime mover engine, boom reel and hoses
 - B. Safe operating procedures for boom reel and prime mover
 - C. Safety shut down procedure
4. Introduction to the individual components including technical documentation on the components:
 - A. The Hydraulic Prime Mover:
 1. Diesel powered engine, starting, operating and maintenance
 2. Hydraulic pump

3. Hydraulic plumbing; valves and controls
 4. Hydraulic hoses and fittings
 5. Operating controls for the skimmer
 6. Gauges, safety systems and system monitoring devices
- B. The Skimmer:
1. Assembly of the floats
 2. Connection of hydraulic hoses
 3. Connection of discharge hoses
 4. Operating instructions
 5. Maintenance
 6. Trouble shooting
- C. The Remote Control Console:
1. Operating the radio controls - start/stop, speed, direction
 2. Interface with the servos mounted on the R.O.V.
 3. Boom blower operation
- D. The Deployment/Storage Reels:
1. Structural components
 2. Hydraulic drive system
 3. Deployment/retrieval and braking controls
 4. Gauges and relief valves
- E. The Auto Boom™:
1. Boom components; freeboard, draft, tension member/ballast, end connectors, anchor points and hand holds
 2. The single point inflation system, air connections and air bridges
 3. Deployment and retrieval procedures
 4. Storage, cleaning and maintenance procedures
- F. The Remote Operated Vessel (R.O.V.):
1. Diesel engine
 2. Jet propulsion system
 3. Manual controls
 4. Radio controls
 5. Anchoring system

6. Air blower for boom inflation
7. Fire monitor
8. Lighting

CLASS #3: HANDS ON INTRODUCTION TO THE SYSTEM

This class will be conducted in the field and will cover several operations:

- A. The Hydraulic Prime Mover:
 1. Diesel powered engine
 2. Hydraulic pump
 3. Hydraulic plumbing; valves and controls
 4. Hydraulic hoses and fittings
 5. Operating controls for the skimmer
 6. Gauges, safety systems and system monitoring devices
 7. Hydraulic starter with accumulator
- B. The Floating Skimmer:
 1. Assembly of the floats
 2. Connection of hydraulic hoses
 3. Connection of discharge hoses
- C. The Remote Control Console:
 1. The radio controls
 2. Interface with the servos mounted on the R.O.V.
- D. The Deployment/Storage Reels:
 1. Structural components
 2. Hydraulic drive system
 3. Deployment/retrieval and braking controls
 4. Gauges and relief valves
- E. The Auto Boom™:
 1. Boom components; freeboard, draft, tension member/ballast, end connectors, anchor points and hand holds
 2. The single point inflation system, air connections and air bridges
 3. Deployment and retrieval procedures

F. The Remote Operated Vessel (R.O.V.):

1. Diesel engine
2. Jet propulsion system
3. Manual controls
4. Radio controlled services
5. Anchoring system
6. Air blower for boom inflation
7. Fire monitor
8. Lighting

Each student will observe how the system is assembled and activated. The instructor will simulate an actual spill and go through the step by step procedures to deploy the system.

CLASS #4 & 5: STUDENT ACTIVATION OF THE SYSTEM

The instructor will provide a spill scenario and the students will respond as a team to activate, deploy and retrieve the system.

CLASS #6: SERVICE, MAINTENANCE AND STORAGE

This class will cover the maintenance and service procedures necessary to guarantee that the system is fully operable at all times. In addition to normal maintenance on metal parts, diesel engines and hydraulic pumps should be run on a regular basis (similar to life boat engines). Full scale drills are recommended semi-annually or more often if personnel change. Grease fittings should be maintained every month and the boom and accessories should be properly cleaned and covered with their form fitting, water proof covers. Monitoring of the gauges during operation provides assurance that the system is operating properly.

CLASS #7: WRITTEN TEST AND REVIEW**CLASS #8: FIELD TEST & REVIEW, QUESTIONS & ANSWERS****CLASS #9: OVERVIEW OF BOOM DEPLOYMENT TECHNIQUES IN VARYING SEA & WEATHER CONDITIONS****CLASS #10: FINAL HANDS ON REVIEW AND EVALUATION**

TIME DEPENDENCE OF OIL SPILL RESPONSE EFFORTS

Rapid response is critical to the success of any oil containment and recovery effort and the damage of oil containment and removal equipment on board oil tankers and barges is the only way to guarantee rapid response. This fact is clearly shown by the following tables and graphs of oil outflow from leaking tankers and barges. (From Battelle Memorial Institute's Report "INVESTIGATION OF SELF-HELP OIL SPILL RESPONSE TECHNIQUES AND EQUIPMENT" prepared for the U.S. Department of Transportation and the U.S. Coast Guard.) These charts show oil outflow from different size barges and tankers based on several variables including: penetration size, number of tanks penetrated, size of damaged section, relative height of penetration to water line, and cumulative oil volume in penetrated tanks.

To generate the time-dependent curves of the oil outflow and oil outflow rate, a fortran program was written and run on a Sun Sparc-2 work station. The program produced a detailed output file, a one-page summary of the output file, and a plot of the cumulative oil volume lost and oil outflow with respect to time. The plot was generated utilizing the UNIRAS™ graphics package.

In the case of grounding, the program calculates the penetration size and determines the outflow area in each of the penetrated tanks. In the case of collision, the total penetration size is input and the program determines the outflow area in each of the penetrated tanks.

The same method of calculating oil outflow was employed by Ross Environmental Research Ltd. of Canada in their study of self-help countermeasures for Arctic tankers (Ross 1983). Results from the calculations used in this study agreed with those from the Ross study for similar cases.

These tables show that rapid response during the FIRST HOUR is critical to a successful containment effort. If we average these statistics, we find that during this first hour less than one quarter of the oil, from the damaged tanks, leaks out and containment booms can be deployed to contain over three quarters of the oil that has not yet escaped. By the fourth hour, after an accident, more than half of the samples have lost over ninety percent of the oil from the damaged tanks. After twelve hours (the response time required by O.P.A. '90 for high volume ports) over ninety (90%) percent of these tankers and barges have lost all of the oil from the damaged tanks and by twenty-four hours (the response time required by O.P.A. '90 for all locations other than high volume ports) all of the samples have lost one hundred percent of the oil from the damaged tanks.

The Battelle Report concludes that:

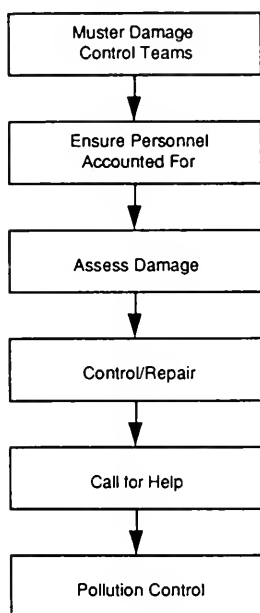
Pg. iii "The results suggest that a pumping solution in conjunction with some form of containment has the most promise in the near term and it is recommended that research pertaining to on board self-help countermeasures focus on the pumping-containment category of concepts."

Pg. 4.10 "Tanker size has little impact on the crew size of U.S. ships. The tankers observed for this study were 70,000 DWT and 810 feet long, and maintained a crew of 24"

Pg. 4.13 4.3.5 Emergency Operations and Pollution Control for Tankers

"The conditions under which self-help measures would be employed (i.e., groundings and collisions) would result in the mobilization of emergency operating procedures aboard ships. One of the primary issues investigated in the interviews was the nature of these emergency operations, and the potential availability of crew for the operation of self-help measures."

Pg. 4.16 "The entire cycle of emergency response operations depicted in Figure 4.3 is estimated to require approximately 25 minutes, possibly less depending on damage severity and environmental conditions. This estimate is based on the timeline of the Exxon Valdez accident, in which the grounding occurred shortly after midnight, and by 12:30 a.m., the chief mate had assessed the damage and made initial stability calculations."

FIGURE 4.3 Stages of Emergency Response for Tanker Accidents

Pg. 4.17 "It was clear from the interviews that if properly engineered technologies were available crews would be available to operate the technologies if they could be used from the ship. The interview with a current tanker master also indicated an availability of crew.

Pg. 4.21 "The results of the analysis presented in this chapter suggest that self-help oil spill countermeasures are a viable technology from a human factors perspective, although further engineering is required for unobtrusive introduction aboard tanker ships. "

"From the standpoint of crew resources, there are personnel available to operate countermeasures, assuming that other damage assessment and control activities have been accommodated."

Pg. 5.5 "Most or all of this evolution must be done automatically and very reliably."

Oil Outflow in Case of Vessel Collision for 2713 GT Barge

Penetration Area = 0.50 sq. ft.

Damage Length = 0.50 ft.

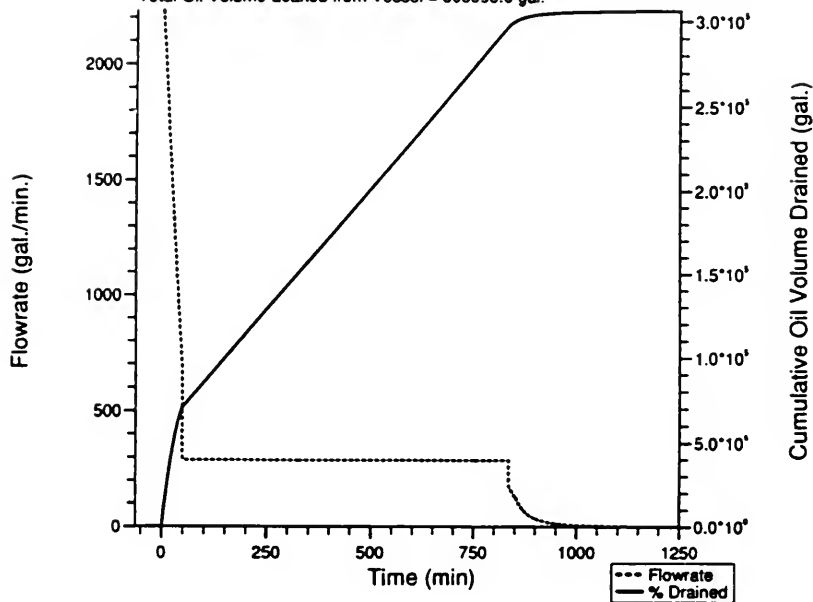
2 Tanks penetrated

Damage Height = 1.00 ft.

Height of Penetration Center with respect to Waterline = -0.2 ft.

Cumulative Oil Volume in Penetrated tank(s) = 306037.4 gal.

Total Oil Volume Leaked from Vessel = 306098.0 gal.



Barge Collision Barge GT = 2713.

Accident Occurred in Salt Water Cargo Specific Gravity = .86

Draft = 12.0 ft

Penetration Height = 1.00 ft Penetration Length = 0.50 ft

Penetration Area = 0.5 sq. ft No. Tanks Penetrated = 2

Penetration Center w.r.t. Water Line = -0.2 ft

Time (min)	Total Outflow (gal)	% Outflow	Flowrate (gal/min)
0.27	612.07	0.20	2227.40
25.56	46618.92	15.23	1420.86
51.11	71410.83	23.33	289.19
76.67	78801.20	25.75	289.19
102.22	86191.56	28.16	289.19
127.78	93581.93	30.58	289.19
153.06	100892.83	32.97	289.19
178.62	108283.20	35.38	289.19
204.17	115673.56	37.80	289.19
229.73	123063.93	40.21	289.19
255.28	130454.30	42.63	289.19
280.56	137765.45	45.02	289.19
306.12	145156.56	47.43	289.19
331.67	152547.67	49.85	289.19
357.23	159938.80	52.26	289.19
382.78	167329.91	54.68	289.19
408.34	174721.03	57.09	289.19
433.62	182032.67	59.48	289.19
459.17	189423.78	61.90	289.19
484.73	196814.91	64.31	289.19
510.28	204206.02	66.73	289.19
535.84	211597.14	69.14	289.19
561.11	218908.78	71.53	289.19
586.67	226299.89	73.95	289.19
612.22	233691.02	76.36	289.19
637.78	241082.12	78.78	289.19
663.33	248473.25	81.19	289.19
688.89	255864.36	83.61	289.19
714.17	263176.00	85.99	289.19
739.72	270567.09	88.41	289.19
765.28	277956.72	90.82	289.19
790.83	285346.34	93.24	289.19
816.39	292735.97	95.65	289.19
841.67	299192.12	97.76	155.06
867.22	302170.44	98.74	79.26
892.77	303631.06	99.21	41.02
918.33	304432.25	99.48	23.91
943.88	304918.72	99.63	15.14
969.44	305236.09	99.74	10.19
994.72	305452.59	99.81	7.21
1020.27	305609.91	99.86	5.27
1045.83	305726.59	99.90	3.96
1071.38	305815.53	99.93	3.06
1096.94	305884.97	99.95	2.41
1122.22	305939.53	99.97	1.94
1147.77	305984.12	99.98	1.58
1173.33	306020.56	99.99	1.30
1198.88	306050.94	100.00	1.08
1224.43	306076.34	100.00	0.91
1250.26	306098.00	100.00	0.00

Oil Outflow in Case of Vessel Collision for 2713 GT Barge

Penetration Area = 2.00 sq. ft.

Damage Length = 1.00 ft.

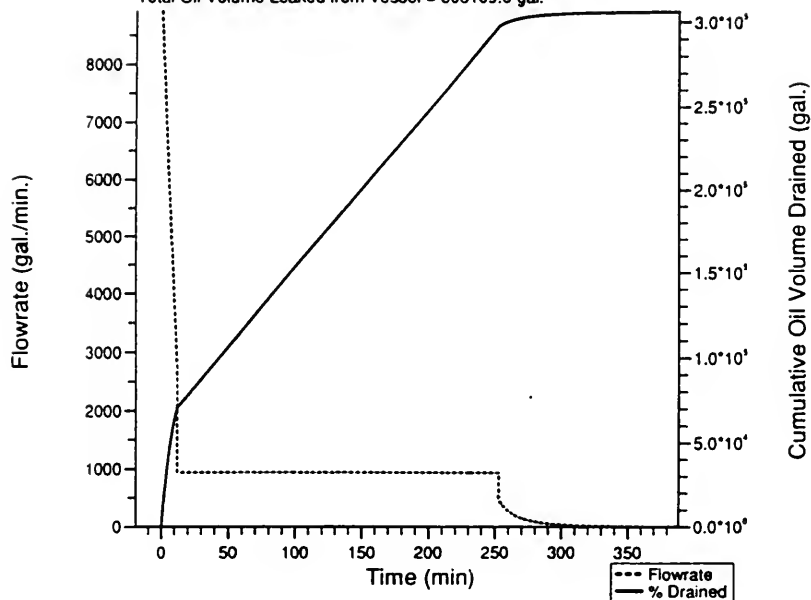
2 Tanks penetrated

Damage Height = 2.00 ft.

Height of Penetration Center with respect to Waterline = -0.2 ft.

Cumulative Oil Volume in Penetrated tank(s) = 306037.4 gal.

Total Oil Volume Leaked from Vessel = 306109.0 gal.



Barge Collision Barge GT = 2713.

Accident Occurred in Salt Water Cargo Specific Gravity = .86

Draft = 12.0 ft

Penetration Height = 2.00 ft Penetration Length = 1.00 ft

Penetration Area = 2.0 sq. ft No. Tanks Penetrated = 2

Penetration Center w.r.t. Water Line = -0.2 ft

Time (min)	Total Outflow (gal)	% Outflow	Flowrate (gal/min)
0.07	612.07	0.20	8907.97
7.97	54927.73	17.95	4873.80
15.94	74136.79	24.22	944.43
23.84	81599.18	26.66	944.43
31.81	89126.46	29.12	944.43
39.71	96588.85	31.56	944.43
47.69	104116.13	34.02	944.43
55.59	111578.53	36.46	944.43
63.56	119105.81	38.92	944.43
71.46	126568.20	41.36	944.43
79.43	134095.48	43.82	944.43
87.33	141558.66	46.26	944.43
95.30	149086.88	48.72	944.43
103.20	156550.20	51.15	944.43
111.17	164078.41	53.61	944.43
119.08	171541.73	56.05	944.43
127.05	179069.95	58.51	944.43
134.95	186533.27	60.95	944.43
142.92	194061.48	63.41	944.43
150.82	201524.81	65.85	944.43
158.79	209053.02	68.31	944.43
166.69	216516.34	70.75	944.43
174.66	224044.56	73.21	944.43
182.56	231507.88	75.65	944.43
190.53	239036.09	78.11	944.43
198.44	246499.42	80.55	944.43
206.41	254027.64	83.01	944.43
214.31	261490.95	85.44	944.43
222.28	269019.16	87.90	944.43
230.18	276481.00	90.34	944.43
238.15	284007.34	92.80	944.43
246.05	291468.81	95.24	944.43
254.02	298451.56	97.52	431.25
261.93	301011.34	98.36	242.36
269.90	302527.66	98.85	148.94
277.80	303484.38	99.17	98.32
285.77	304136.56	99.38	68.08
293.68	304593.97	99.53	49.20
301.65	304932.28	99.64	36.61
309.55	305185.44	99.72	28.04
317.52	305382.94	99.79	21.91
325.43	305537.47	99.84	17.47
333.40	305662.66	99.88	14.13
341.30	305763.88	99.91	11.61
349.28	305848.31	99.94	9.64
357.18	305918.09	99.96	8.11
365.15	305977.62	99.98	6.87
373.05	306027.94	100.00	5.88
381.03	306071.28	100.00	5.07
389.07	306109.00	100.00	0.00

Oil Outflow in Case of Vessel Collision for 1769 GT Barge

Penetration Area = 2.00 sq. ft.

Damage Length = 1.00 ft.

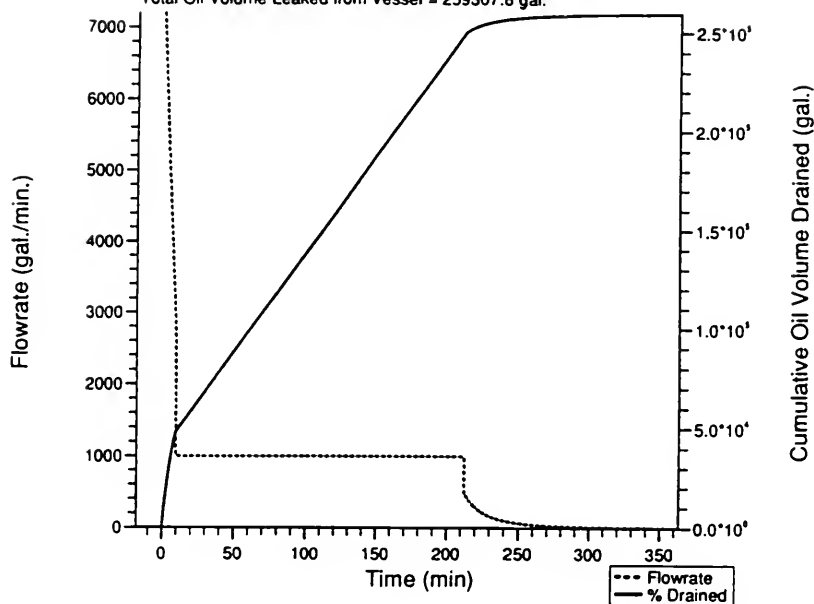
2 Tanks penetrated

Damage Height = 2.00 ft.

Height of Penetration Center with respect to Waterline = -0.3 ft.

Cumulative Oil Volume in Penetrated tank(s) = 259252.4 gal.

Total Oil Volume Leaked from Vessel = 259307.8 gal.



Barge Collision Barge GT = 1769.

Accident Occurred in Fresh Water Cargo Specific Gravity = .92

Draft = 9.6 ft

Penetration Height = 2.00 ft Penetration Length = 1.00 ft

Penetration Area = 2.0 sq. ft No. Tanks Penetrated = 2

Penetration Center w.r.t. Water Line = -0.3 ft

Time (min)	Total Outflow (gal)	% Outflow	Flowrate (gal/min)
0.07	518.50	0.20	7195.88
7.42	40833.79	15.75	3806.83
14.84	53283.16	20.55	996.31
22.27	60677.68	23.40	996.31
29.69	68072.19	26.26	996.31
37.11	75466.70	29.11	996.31
44.53	82861.21	31.96	996.31
51.95	90255.72	34.81	996.31
59.37	97650.23	37.67	996.31
66.80	105044.74	40.52	996.31
74.22	112439.25	43.37	996.31
81.64	119833.76	46.22	996.31
89.06	127228.27	49.08	996.31
96.48	134622.78	51.93	996.31
103.91	142016.53	54.78	996.31
111.33	149410.20	57.63	996.31
118.75	156803.89	60.48	996.31
126.17	164197.56	63.34	996.31
133.59	171591.25	66.19	996.31
141.02	178984.92	69.04	996.31
148.44	186378.61	71.89	996.31
155.86	193772.30	74.74	996.31
163.28	201165.97	77.59	996.31
170.70	208559.66	80.45	996.31
178.12	215953.33	83.30	996.31
185.47	223275.23	86.12	996.31
192.89	230668.91	88.97	996.31
200.31	238062.59	91.83	996.31
207.74	245456.27	94.68	996.31
215.16	251257.69	96.92	400.08
222.58	253590.77	97.82	246.56
230.00	255077.05	98.39	162.56
237.42	256082.03	98.78	112.78
244.84	256793.12	99.05	81.42
252.26	257314.67	99.25	60.69
259.69	257708.58	99.40	46.44
267.11	258013.30	99.52	36.33
274.53	258253.88	99.61	28.95
281.95	258447.12	99.69	23.44
289.37	258604.73	99.75	19.25
296.79	258734.95	99.80	16.00
304.21	258843.72	99.84	13.44
311.64	258935.55	99.88	11.40
319.06	259013.78	99.91	9.75
326.48	259080.97	99.93	8.41
333.90	259139.08	99.96	7.30
341.32	259189.73	99.98	6.38
348.74	259234.03	99.99	5.61
356.16	259273.14	100.00	4.95
363.66	259307.80	100.00	0.00

**Oil Outflow in Case of Vessel Collision
for 1769 GT Barge**

Penetration Area = 0.50 sq. ft.

Damage Length = 0.50 ft.

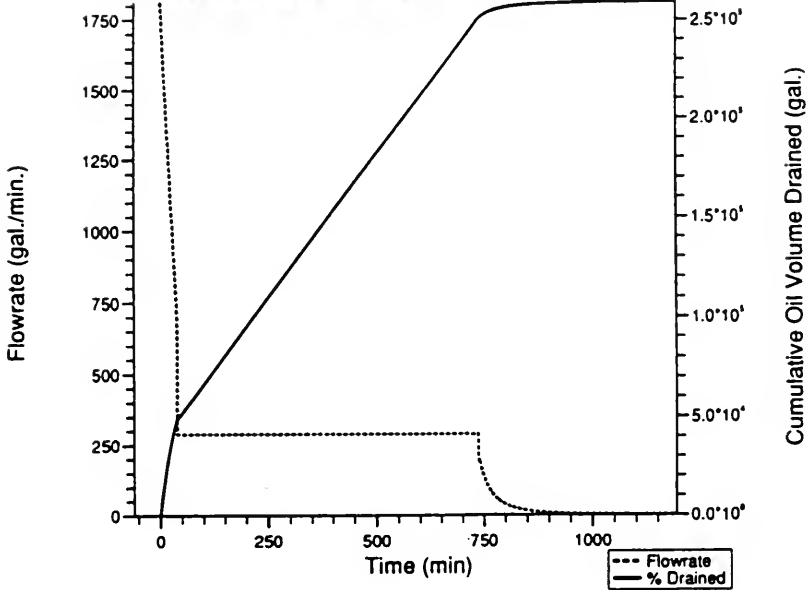
2 Tanks penetrated

Damage Height = 1.00 ft.

Height of Penetration Center with respect to Waterline = -0.1 ft.

Cumulative Oil Volume in Penetrated tank(s) = 259252.4 gal.

Total Oil Volume Leaked from Vessel = 259252.1 gal.



Barge Collision Barge GT = 1769.

Accident Occurred in Fresh Water Cargo Specific Gravity = .92

Draft = 9.6 ft

Penetration Height = 1.00 ft Penetration Length = 0.50 ft

Penetration Area = 0.5 sq. ft No. Tanks Penetrated = 2

Penetration Center w.r.t. Water Line = -0.1 ft

Time (min)	Total Outflow (gal)	% Outflow	Flowrate (gal/min)
0.29	518.50	0.20	1809.99
24.64	35951.25	13.87	1108.41
48.99	51708.00	19.95	289.19
73.34	58749.77	22.66	289.19
97.69	65791.52	25.38	289.19
122.04	72833.29	28.09	289.19
146.39	79875.05	30.81	289.19
170.74	86916.81	33.53	289.19
195.08	93958.57	36.24	289.19
219.43	101000.34	38.96	289.19
243.78	108042.09	41.67	289.19
268.13	115083.86	44.39	289.19
292.48	122125.62	47.11	289.19
316.83	129167.38	49.82	289.19
341.18	136209.14	52.54	289.19
365.53	143250.91	55.26	289.19
389.88	150292.67	57.97	289.19
414.23	157334.42	60.69	289.19
438.58	164376.19	63.40	289.19
462.93	171417.95	66.12	289.19
487.28	178459.72	68.84	289.19
511.63	185501.47	71.55	289.19
535.98	192543.23	74.27	289.19
560.33	199585.00	76.98	289.19
584.67	206626.75	79.70	289.19
609.02	213668.52	82.42	289.19
633.37	220710.28	85.13	289.19
657.72	227752.05	87.85	289.19
682.06	234793.80	90.57	289.19
706.41	241835.56	93.28	289.19
730.76	248877.33	96.00	289.19
755.11	253519.20	97.79	117.96
779.45	255600.23	98.59	61.69
803.80	256752.09	99.04	36.22
828.15	257455.78	99.31	23.05
852.49	257917.06	99.48	15.57
876.84	258235.77	99.61	11.01
901.19	258465.05	99.70	8.07
925.54	258635.52	99.76	6.09
949.88	258765.73	99.81	4.70
974.23	258867.41	99.85	3.71
998.58	258948.36	99.88	2.98
1022.92	259013.83	99.91	2.43
1047.28	259067.53	99.93	2.01
1071.63	259112.11	99.95	1.67
1095.98	259149.55	99.96	1.41
1120.33	259181.30	99.97	1.20
1144.69	259208.44	99.98	1.03
1169.04	259231.78	99.99	0.89
1193.68	259252.08	100.00	0.00

Oil Outflow in Case of Vessel Collision for 1182 GT Barge

Penetration Area = 2.00 sq. ft.

Damage Length = 1.00 ft.

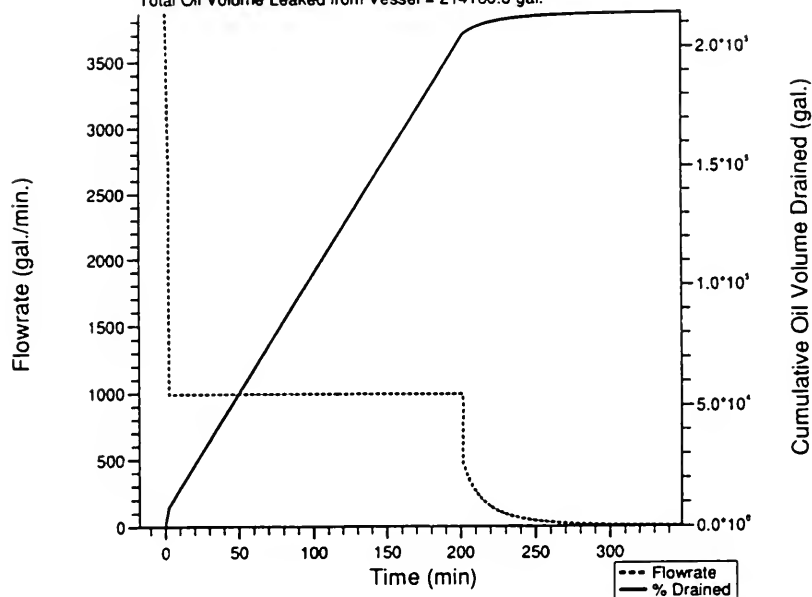
2 Tanks penetrated

Damage Height = 2.00 ft.

Height of Penetration Center with respect to Waterline = -0.3 ft.

Cumulative Oil Volume in Penetrated tank(s) = 214108.3 gal.

Total Oil Volume Leaked from Vessel = 214160.8 gal.



Barge Collision . Barge GT = 1182.

Accident Occurred in Fresh Water Cargo Specific Gravity = .92

Draft = 9.6 ft

Penetration Height = 2.00 ft Penetration Length = 1.00 ft

Penetration Area = 2.0 sq. ft No. Tanks Penetrated = 2

Penetration Center w.r.t. Water Line = -0.3 ft

Time (min)	Total Outflow (gal)	% Outflow	Flowrate (gal/min)
0.11	428.22	0.20	3863.55
7.20	12764.63	5.96	990.66
14.30	19791.79	9.24	990.66
21.39	26818.94	12.53	990.66
28.48	33846.09	15.81	990.66
35.69	40983.05	19.14	990.66
42.78	48010.20	22.42	990.66
49.88	55037.35	25.71	990.66
56.97	62064.51	28.99	990.66
64.06	69091.71	32.27	990.66
71.27	76228.93	35.60	990.66
78.36	83256.34	38.89	990.66
85.45	90283.75	42.17	990.66
92.55	97311.16	45.45	990.66
99.64	104338.57	48.73	990.66
106.84	111475.79	52.07	990.66
113.94	118503.20	55.35	990.66
121.03	125530.61	58.63	990.66
128.12	132558.02	61.91	990.66
135.22	139585.42	65.19	990.66
142.42	146722.64	68.53	990.66
149.52	153750.05	71.81	990.66
156.61	160777.47	75.09	990.66
163.70	167804.88	78.37	990.66
170.80	174832.28	81.66	990.66
178.00	181969.50	84.99	990.66
185.10	188996.91	88.27	990.66
192.19	196024.33	91.55	990.66
199.28	203051.73	94.84	990.66
206.38	207204.70	96.78	336.90
213.58	209134.89	97.68	213.35
220.68	210378.67	98.26	144.38
227.77	211239.47	98.66	102.22
234.86	211859.86	98.95	75.00
241.96	212321.81	99.17	56.65
249.16	212679.77	99.33	43.67
256.25	212954.70	99.46	34.49
263.35	213173.80	99.56	27.71
270.44	213351.14	99.65	22.60
277.54	213496.72	99.71	18.67
284.74	213619.47	99.77	15.57
291.83	213720.83	99.82	13.14
298.93	213806.81	99.86	11.20
306.02	213880.38	99.89	9.62
313.12	213943.80	99.92	8.33
320.32	213999.66	99.95	7.24
327.41	214047.70	99.97	6.34
334.51	214089.92	99.99	5.59
341.60	214127.19	100.00	4.95
348.92	214160.81	100.00	0.00

Oil Outflow in Case of Vessel Collision for 1182 GT Barge

Penetration Area = 0.50 sq. ft.

Damage Length = 0.50 ft.

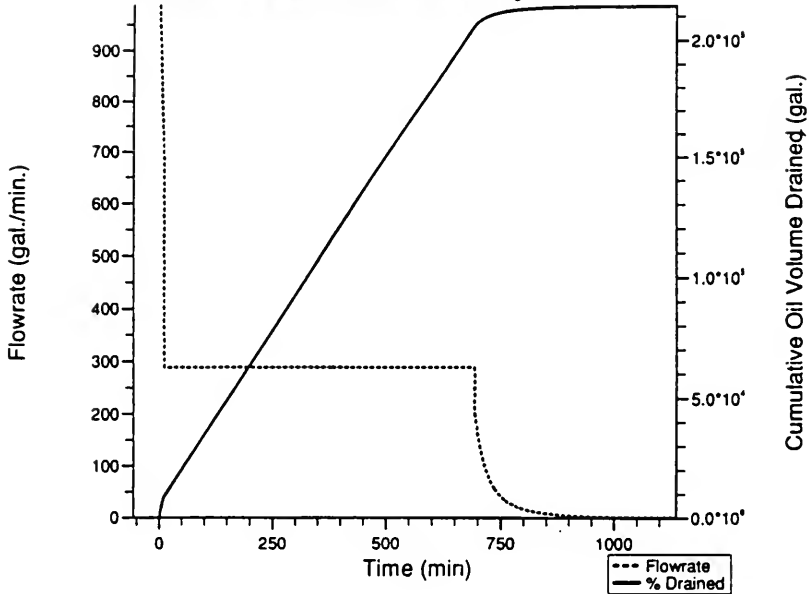
2 Tanks penetrated

Damage Height = 1.00 ft.

Height of Penetration Center with respect to Waterline = -0.1 ft.

Cumulative Oil Volume in Penetrated tank(s) = 214108.3 gal.

Total Oil Volume Leaked from Vessel = 214211.9 gal.



Barge Collision Barge GT = 1182.

Accident Occurred in Fresh Water Cargo Specific Gravity = .92

Draft = 9.6 ft

Penetration Height = 1.00 ft Penetration Length = 0.50 ft

Penetration Area = 0.5 sq. ft No. Tanks Penetrated = 2

Penetration Center w.r.t. Water Line = -0.1 ft

Time (min)	Total Outflow (gal)	% Outflow	Flowrate (gal/min)
0.43	428.22	0.20	986.27
23.45	12502.72	5.84	289.19
46.46	19157.42	8.95	289.19
69.90	25937.67	12.11	289.19
92.91	32592.37	15.22	289.19
116.36	39372.63	18.39	289.19
139.37	46027.33	21.50	289.19
162.82	52807.59	24.66	289.19
185.83	59462.28	27.77	289.19
209.27	66242.54	30.94	289.19
232.28	72897.41	34.05	289.19
255.30	79552.31	37.16	289.19
278.74	86332.79	40.32	289.19
301.75	92987.70	43.43	289.19
325.20	99768.17	46.60	289.19
348.21	106423.09	49.71	289.19
371.65	113203.56	52.87	289.19
394.67	119858.47	55.98	289.19
418.11	126638.95	59.15	289.19
441.12	133293.86	62.26	289.19
464.13	139948.47	65.36	289.19
487.58	146728.50	68.53	289.19
510.59	153382.98	71.64	289.19
534.04	160163.03	74.80	289.19
557.05	166817.52	77.91	289.19
580.50	173597.55	81.08	289.19
603.51	180252.03	84.19	289.19
626.96	187032.08	87.35	289.19
649.97	193686.56	90.46	289.19
673.42	200466.59	93.63	289.19
696.43	206735.47	96.56	180.74
719.44	209642.53	97.91	88.28
742.89	211184.44	98.63	49.07
765.90	212070.48	99.05	30.30
789.35	212644.86	99.32	19.86
812.36	213025.36	99.49	13.81
835.81	213299.53	99.62	9.93
858.82	213496.67	99.71	7.42
882.27	213648.39	99.79	5.66
905.28	213763.48	99.84	4.43
928.29	213854.47	99.88	3.54
951.74	213928.95	99.92	2.86
974.75	213988.55	99.94	2.35
998.20	214038.69	99.97	1.95
1021.21	214079.75	99.99	1.64
1044.66	214115.09	100.00	1.39
1067.67	214144.64	100.00	1.19
1091.12	214170.50	100.00	1.02
1114.13	214192.42	100.00	0.89
1138.01	214211.88	100.00	0.00

Oil Outflow in Case of Vessel Collision for 628 GT Barge

Penetration Area = 2.00 sq. ft.

Damage Length = 1.00 ft.

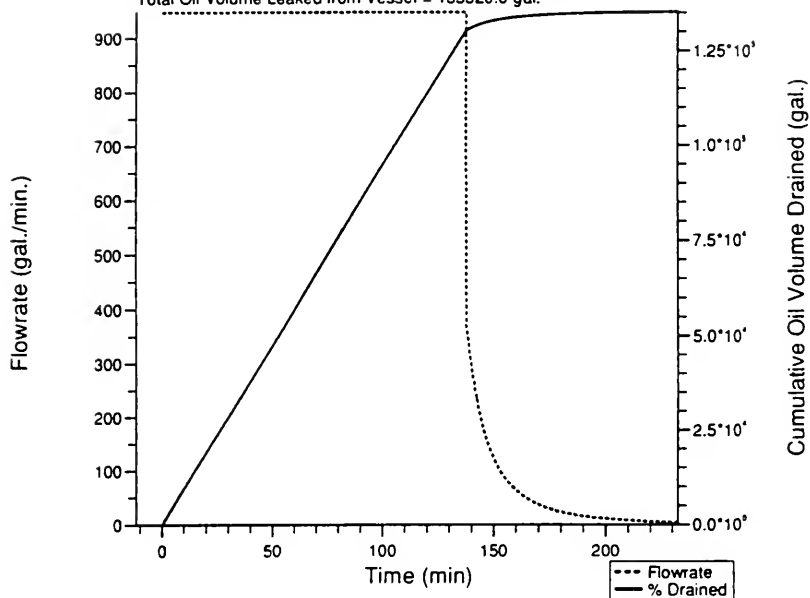
2 Tanks penetrated

Damage Height = 2.00 ft.

Height of Penetration Center with respect to Waterline = -0.3 ft.

Cumulative Oil Volume in Penetrated tank(s) = 135294.2 gal.

Total Oil Volume Leaked from Vessel = 135320.6 gal.



Barge Collision Barge GT = 628.
 Accident Occurred in Fresh Water Cargo Specific Gravity = .92
 Draft = 9.6 ft
 Penetration Height = 2.00 ft Penetration Length = 1.00 ft
 Penetration Area = 2.0 sq. ft No. Tanks Penetrated = 2
 Penetration Center w.r.t. Water Line = -0.3 ft

Time (min)	Total Outflow (gal)	% Outflow	Flowrate (gal/min)
0.29	270.59	0.20	948.03
4.85	4600.00	3.40	948.03
9.70	9200.01	6.80	948.03
14.27	13529.42	10.00	948.03
19.12	18129.42	13.40	948.03
23.69	22458.83	16.60	948.03
28.54	27058.83	20.00	948.03
33.39	31658.83	23.40	948.03
37.96	35988.25	26.60	948.03
42.81	40588.29	30.00	948.03
47.38	44917.73	33.20	948.03
52.23	49517.76	36.60	948.03
57.08	54117.79	40.00	948.03
61.65	58447.24	43.20	948.03
66.50	63047.27	46.60	948.03
71.07	67376.71	49.80	948.03
75.92	71976.74	53.20	948.03
80.77	76576.77	56.60	948.03
85.34	80906.22	59.80	948.03
90.19	85506.25	63.20	948.03
94.76	89835.70	66.40	948.03
99.61	94435.73	69.80	948.03
104.46	99035.76	73.20	948.03
109.03	103365.20	76.40	948.03
113.88	107965.23	79.80	948.03
118.45	112294.68	83.00	948.03
123.30	116894.71	86.40	948.03
127.87	121224.15	89.60	948.03
132.72	125824.19	93.00	948.03
137.57	130424.22	96.40	948.03
142.14	131775.42	97.40	237.93
146.99	132701.62	98.08	156.24
151.56	133295.72	98.52	110.35
156.41	133746.05	98.86	79.35
161.26	134075.48	99.10	58.98
165.83	134310.95	99.27	45.72
170.68	134505.58	99.42	35.65
175.25	134650.83	99.52	28.72
180.10	134775.33	99.62	23.19
184.95	134876.59	99.69	18.99
189.52	134955.61	99.75	15.92
194.37	135025.97	99.80	13.34
198.94	135082.03	99.84	11.40
203.79	135132.91	99.88	9.73
208.64	135176.48	99.91	8.37
213.21	135212.06	99.94	7.31
218.06	135245.09	99.96	6.38
222.63	135272.36	99.98	5.64
227.48	135297.97	100.00	4.97
232.62	135320.58	100.00	0.00

Oil Outflow in Case of Vessel Collision for 628 GT Barge

Penetration Area = 0.50 sq. ft.

Damage Length = 0.50 ft.

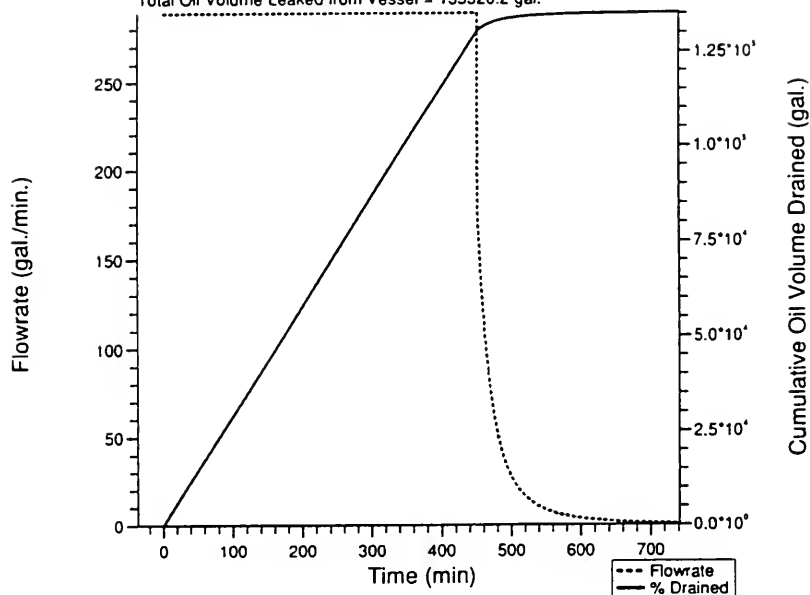
2 Tanks penetrated

Damage Height = 1.00 ft.

Height of Penetration Center with respect to Waterline = -0.1 ft.

Cumulative Oil Volume in Penetrated tank(s) = 135294.2 gal.

Total Oil Volume Leaked from Vessel = 135320.2 gal.



**Oil Outflow in Case of Vessel Collision
for 225000 DWT Tanker**

Penetration Area = 50.00 sq. ft.

Damage Length = 5.00 ft.

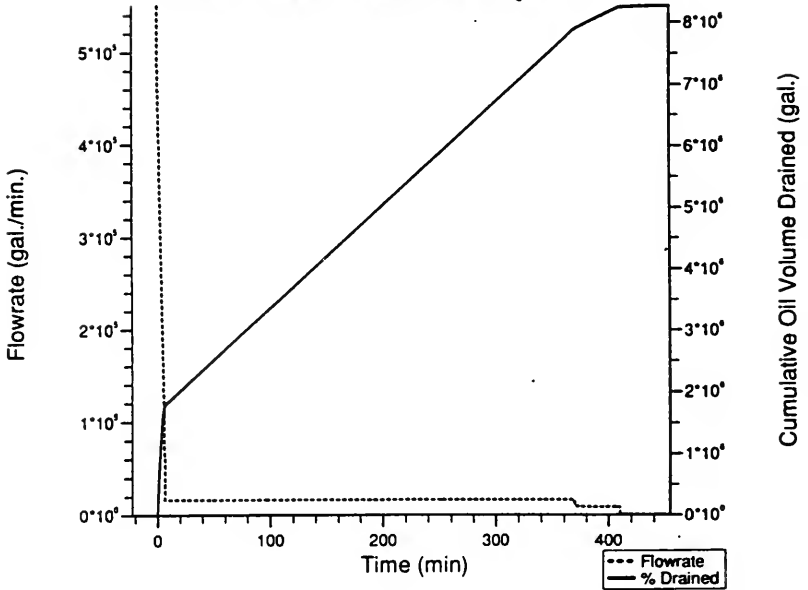
2 Tanks penetrated

Damage Height = 10.00 ft.

Height of Penetration Center with respect to Waterline = -0.4 ft.

Cumulative Oil Volume in Penetrated tank(s) = 8262895.0 gal.

Total Oil Volume Leaked from Vessel = 8261876.0 gal.



Barge Collision Barge GT = 628.

Accident Occurred in Fresh Water Cargo Specific Gravity = .92

Draft = 9.6 ft

Penetration Height = 1.00 ft Penetration Length = 0.50 ft

Penetration Area = 0.5 sq. ft No. Tanks Penetrated = 2

Penetration Center w.r.t. Water Line = -0.1 ft

Time (min)	Total Outflow (gal)	% Outflow	Flowrate (gal/min)
0.94	270.59	0.20	289.19
15.91	4600.00	3.40	289.19
30.88	8929.42	6.60	289.19
45.85	13258.83	9.80	289.19
60.82	17588.24	13.00	289.19
75.79	21917.65	16.20	289.19
90.76	26247.06	19.40	289.19
106.67	30847.06	22.80	289.19
121.64	35176.48	26.00	289.19
136.61	39505.93	29.20	289.19
151.58	43835.37	32.40	289.19
166.55	48164.81	35.60	289.19
181.52	52494.25	38.80	289.19
196.49	56823.70	42.00	289.19
212.40	61423.73	45.40	289.19
227.37	65753.17	48.60	289.19
242.34	70082.61	51.80	289.19
257.31	74412.05	55.00	289.19
272.28	78741.49	58.20	289.19
287.25	83070.94	61.40	289.19
302.22	87400.38	64.60	289.19
318.13	92000.41	68.00	289.19
333.10	96329.86	71.20	289.19
348.07	100659.30	74.40	289.19
363.04	104988.74	77.60	289.19
378.01	109318.19	80.80	289.19
392.98	113647.62	84.00	289.19
407.95	117977.07	87.20	289.19
423.86	122577.10	90.60	289.19
438.83	126906.55	93.80	289.19
453.80	130893.24	96.75	158.94
468.77	132553.53	97.97	79.83
483.74	133445.75	98.63	45.71
498.71	133980.67	99.03	28.60
513.68	134326.75	99.28	19.08
529.59	134575.83	99.47	13.09
544.56	134741.78	99.59	9.55
559.53	134864.73	99.68	7.18
574.50	134958.38	99.75	5.53
589.47	135031.36	99.81	4.35
604.44	135089.33	99.85	3.49
619.41	135136.14	99.88	2.84
635.32	135176.67	99.91	2.31
650.29	135208.16	99.94	1.93
665.26	135234.56	99.96	1.63
680.23	135256.97	99.97	1.39
695.20	135276.11	99.99	1.19
710.17	135292.59	100.00	1.03
725.14	135306.92	100.00	0.90
741.99	135320.16	100.00	0.00

Oil Outflow in Case of Vessel Collision for 262000 DWT Tanker

Penetration Area = 50.00 sq. ft.

Damage Length = 5.00 ft.

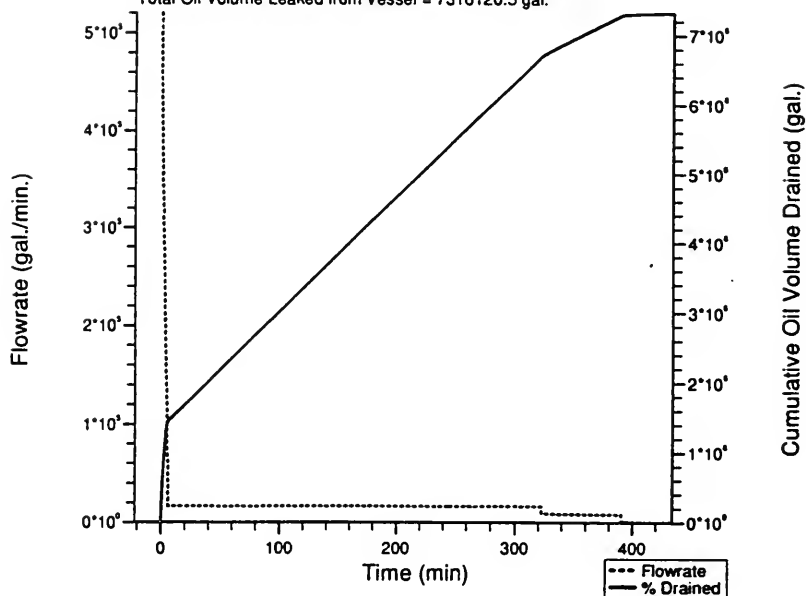
2 Tanks penetrated

Damage Height = 10.00 ft.

Height of Penetration Center with respect to Waterline = -0.3 ft.

Cumulative Oil Volume in Penetrated tank(s) = 7317069.0 gal.

Total Oil Volume Leaked from Vessel = 7316120.5 gal.



Tanker Collision Tanker DWT = 262000. tons

Accident Occurred in Salt Water Cargo Specific Gravity = .86

Draft = 67.2 ft

Penetration Height = 10.00 ft Penetration Length = 5.00 ft

Penetration Area = 50.0 sq. ft No. Tanks Penetrated = 2

Penetration Center w.r.t. Water Line = -0.3 ft

Time (min)	Total Outflow (gal)	% Outflow	Flowrate (gal/min)
0.03	16017.47	0.22	520159.00
8.87	1505349.62	20.57	16607.69
17.74	1652646.75	22.59	16607.69
26.61	1799943.75	24.60	16607.69
35.47	1947240.75	26.61	16607.69
44.31	2094026.25	28.62	16607.69
53.18	2241303.75	30.63	16607.69
62.05	2388563.75	32.64	16607.69
70.92	2535823.50	34.66	16607.69
79.75	2682572.25	36.66	16607.69
88.62	2829832.00	38.67	16607.69
97.49	2977091.75	40.69	16607.69
106.36	3124351.75	42.70	16607.69
115.23	3271611.50	44.71	16607.69
124.06	3418360.25	46.72	16607.69
132.93	3565620.00	48.73	16607.69
141.80	3712880.00	50.74	16607.69
150.67	3860139.75	52.76	16607.69
159.51	4006888.25	54.76	16607.69
168.37	4154148.25	56.77	16607.69
177.24	4301408.00	58.79	16607.69
186.11	4448668.00	60.80	16607.69
194.98	4595928.00	62.81	16607.69
203.82	4742676.50	64.82	16607.69
212.68	4889936.50	66.83	16607.69
221.55	5037196.50	68.84	16607.69
230.42	5184456.00	70.85	16607.69
239.26	5331204.50	72.86	16607.69
248.13	5478464.50	74.87	16607.69
256.99	5625724.50	76.88	16607.69
265.86	5772984.50	78.90	16607.69
274.73	5920244.00	80.91	16607.69
283.57	6066993.00	82.92	16607.69
292.44	6214252.50	84.93	16607.69
301.30	6361512.50	86.94	16607.69
310.17	6508772.50	88.95	16607.69
319.01	6655521.00	90.96	16607.69
327.88	6765510.00	92.46	9210.64
336.75	6844787.00	93.55	8743.32
345.61	6921346.50	94.59	8547.93
354.48	6996684.00	95.62	8452.18
363.32	7070631.50	96.63	8298.80
372.19	7144187.00	97.64	8298.80
381.06	7217742.50	98.64	8298.80
389.92	7291298.50	99.65	8298.80
398.76	7304666.50	99.83	774.78
407.63	7309835.00	99.90	435.20
416.50	7312873.00	99.94	268.40
425.37	7314812.50	99.97	177.00
434.26	7316120.50	99.99	0.00

Oil Outflow in Case of Vessel Collision for 89700 DWT Tanker

Penetration Area = 8.00 sq. ft.

Damage Length = 2.00 ft.

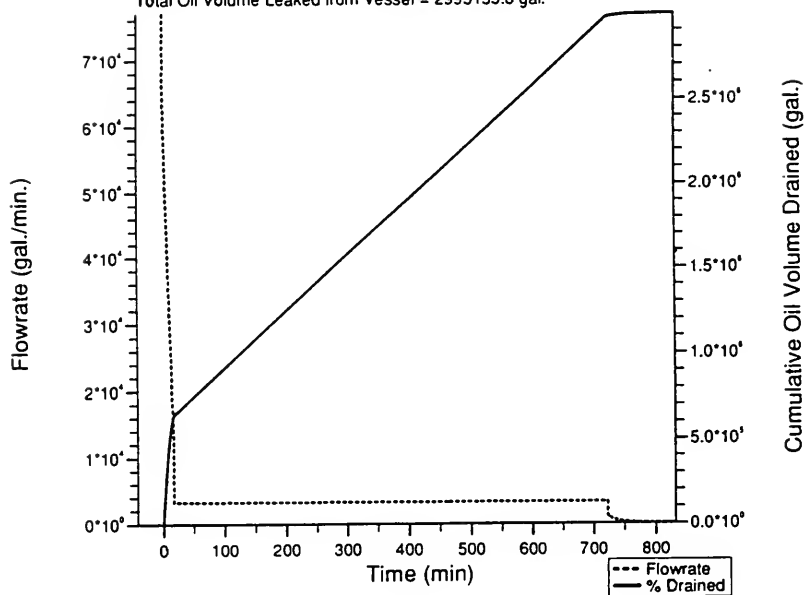
2 Tanks penetrated

Damage Height = 4.00 ft.

Height of Penetration Center with respect to Waterline = -0.4 ft.

Cumulative Oil Volume in Penetrated tank(s) = 2994851.2 gal.

Total Oil Volume Leaked from Vessel = 2995155.8 gal.



Tanker Collision . . . Tanker DWT = 225000. tons

Accident Occurred in Salt Water Cargo Specific Gravity = .86

Draft = 70.3 ft

Penetration Height = 10.00 ft Penetration Length = 5.00 ft

Penetration Area = 50.0 sq. ft No. Tanks Penetrated = 2

Penetration Center w.r.t. Water Line = -0.4 ft

Time (min)	Total Outflow (gal)	% Outflow	Flowrate (gal/min)
0.03	17389.94	0.21	550332.75
9.29	1826167.88	22.10	16809.14
18.58	1982335.88	23.99	16809.14
27.87	2138503.75	25.88	16809.14
37.16	2294671.75	27.77	16809.14
46.42	2450308.50	29.65	16809.14
55.71	2606476.50	31.54	16809.14
65.00	2762644.25	33.43	16809.14
74.29	2918812.25	35.32	16809.14
83.58	3074980.25	37.21	16809.14
92.84	3230617.00	39.10	16809.14
102.13	3386785.00	40.99	16809.14
111.42	3542953.00	42.88	16809.14
120.71	3699121.00	44.77	16809.14
130.00	3855289.00	46.66	16809.14
139.26	4010925.75	48.54	16809.14
148.55	4167093.75	50.43	16809.14
157.84	4323261.50	52.32	16809.14
167.13	4479356.00	54.21	16809.14
176.42	4635448.00	56.10	16809.14
185.68	4791009.50	57.98	16809.14
194.97	4947101.50	59.87	16809.14
204.26	5103193.50	61.76	16809.14
213.55	5259285.50	63.65	16809.14
222.84	5415378.00	65.54	16809.14
232.10	5570939.00	67.42	16809.14
241.39	5727031.00	69.31	16809.14
250.68	5883123.50	71.20	16809.14
259.97	6039215.50	73.09	16809.14
269.26	6195307.50	74.98	16809.14
278.51	6350868.50	76.86	16809.14
287.80	6506961.00	78.75	16809.14
297.09	6663053.00	80.64	16809.14
306.37	6819145.00	82.53	16809.14
315.66	6975237.00	84.42	16809.14
324.91	7130798.50	86.30	16809.14
334.20	7286890.50	88.19	16809.14
343.49	7442982.50	90.08	16809.14
352.77	7599074.50	91.97	16809.14
362.06	7755167.00	93.86	16809.14
371.31	7897248.50	95.57	9685.93
380.60	7983526.00	96.62	9004.38
389.89	8065737.50	97.61	8731.80
399.17	8146185.00	98.59	8602.07
408.46	8225747.50	99.55	8532.61
417.71	8249311.50	99.84	842.11
427.00	8255105.00	99.91	458.18
436.28	8258419.00	99.95	276.32
445.57	8260490.50	99.97	179.28
454.89	8261876.00	99.99	0.00

Oil Outflow in Case of Vessel Collision for 89700 DWT Tanker

Penetration Area = 50.00 sq. ft.

Damage Length = 5.00 ft.

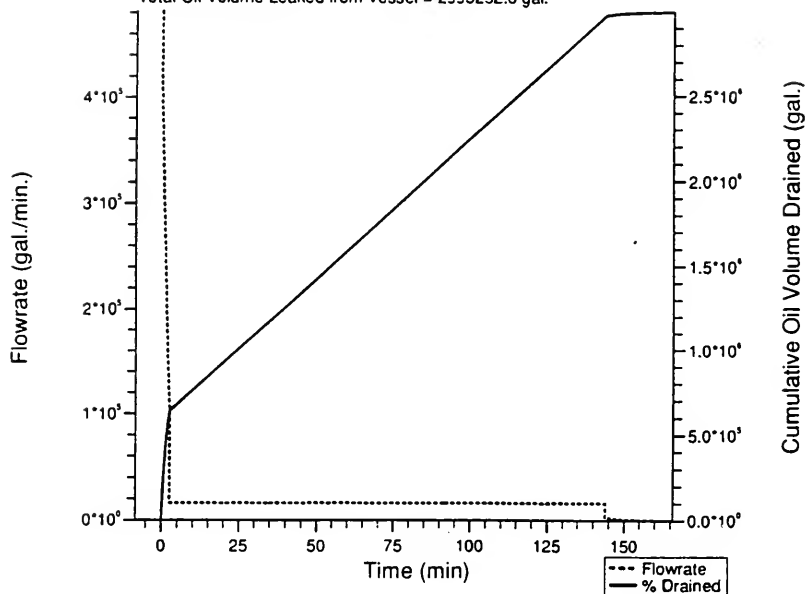
2 Tanks penetrated

Damage Height = 10.00 ft.

Height of Penetration Center with respect to Waterline = -0.3 ft.

Cumulative Oil Volume in Penetrated tank(s) = 2994851.2 gal.

Total Oil Volume Leaked from Vessel = 2995252.8 gal.



Oil Outflow in Case of Vessel Collision for 34000 DWT Tanker

Penetration Area = 8.00 sq. ft.

Damage Length = 2.00 ft.

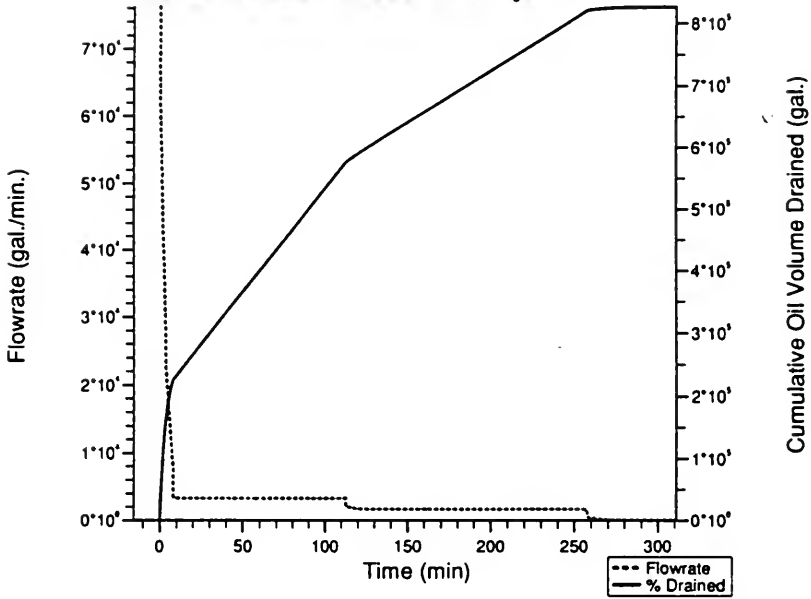
2 Tanks penetrated

Damage Height = 4.00 ft.

Height of Penetration Center with respect to Waterline = -0.4 ft.

Cumulative Oil Volume in Penetrated tank(s) = 825524.2 gal.

Total Oil Volume Leaked from Vessel = 825502.0 gal.



Tanker Collision Tanker DWT = 89700. tons

Accident Occurred in Salt Water Cargo Specific Gravity = .86

Draft = 49.1 ft

Penetration Height = 4.00 ft Penetration Length = 2.00 ft

Penetration Area = 8.0 sq. ft No. Tanks Penetrated = 2

Penetration Center w.r.t. Water Line = -0.4 ft

Time (min)	Total Outflow (gal)	% Outflow	Flowrate (gal/min)
0.08	5989.70	0.20	76984.88
17.04	640515.38	21.39	3305.19
34.00	696572.56	23.26	3305.19
51.04	752886.81	25.14	3305.19
68.00	808944.00	27.01	3305.19
84.96	865001.12	28.88	3305.19
102.00	921315.44	30.76	3305.19
118.96	977372.56	32.64	3305.19
135.92	1033429.75	34.51	3305.19
152.96	1089745.88	36.39	3305.19
169.92	1145817.12	38.26	3305.19
186.96	1202145.50	40.14	3305.19
203.93	1258216.75	42.01	3305.19
220.89	1314287.88	43.88	3305.19
237.93	1370616.38	45.77	3305.19
254.89	1426687.50	47.64	3305.19
271.85	1482758.75	49.51	3305.19
288.88	1539087.12	51.39	3305.19
305.84	1595158.38	53.26	3305.19
322.80	1651229.62	55.14	3305.19
339.83	1707558.00	57.02	3305.19
356.79	1763629.25	58.89	3305.19
373.83	1819957.62	60.77	3305.19
390.79	1876028.88	62.64	3305.19
407.74	1932100.00	64.51	3305.19
424.78	1988428.50	66.39	3305.19
441.74	2044499.75	68.27	3305.19
458.70	2100571.00	70.14	3305.19
475.73	2156899.25	72.02	3305.19
492.69	2212970.50	73.89	3305.19
509.73	2269299.00	75.77	3305.19
526.69	2325370.25	77.65	3305.19
543.65	2381441.25	79.52	3305.19
560.70	2437769.75	81.40	3305.19
577.66	2493841.00	83.27	3305.19
594.63	2549912.25	85.14	3305.19
611.67	2606240.50	87.02	3305.19
628.63	2662311.75	88.90	3305.19
645.60	2718383.00	90.77	3305.19
662.64	2774711.50	92.65	3305.19
679.61	2830782.75	94.52	3305.19
696.65	2887111.00	96.40	3305.19
713.61	2943382.25	98.27	3305.19
730.58	2979931.00	99.50	674.49
747.62	2987442.50	99.75	283.32
764.58	2990898.00	99.87	145.13
781.55	2992776.00	99.93	84.04
798.59	2993913.00	99.97	52.83
815.56	2994648.00	99.99	35.41
832.68	2995155.75	100.00	0.00

Tanker Collision Tanker DWT = 34000. tons
 Accident Occurred in Salt Water Cargo Specific Gravity = .86
 Draft = 36.0 ft
 Penetration Height = 4.00 ft Penetration Length = 2.00 ft
 Penetration Area = 8.0 sq. ft No. Tanks Penetrated = 2
 Penetration Center w.r.t. Water Line = -0.4 ft

Time (min)	Total Outflow (gal)	% Outflow	Flowrate (gal/min)
0.03	2293.65	0.28	76245.13
6.38	209456.22	25.37	12677.03
12.72	241421.12	29.24	3344.84
19.07	262653.81	31.82	3344.84
25.42	283884.38	34.39	3344.84
31.77	305113.66	36.96	3344.84
38.11	326342.94	39.53	3344.84
44.46	347572.22	42.10	3344.84
50.81	368801.50	44.67	3344.84
57.16	390030.78	47.25	3344.84
63.50	411260.06	49.82	3344.84
69.85	432489.34	52.39	3344.84
76.20	453718.62	54.96	3344.84
82.55	474947.91	57.53	3344.84
88.89	496177.19	60.10	3344.84
95.24	517406.47	62.68	3344.84
101.59	538635.75	65.25	3344.84
107.97	559965.69	67.83	3344.84
114.31	579245.12	70.17	2024.15
120.66	590981.50	71.59	1755.84
127.01	601919.19	72.91	1701.99
133.36	612658.25	74.21	1684.57
139.70	623282.06	75.50	1668.05
146.05	633875.44	76.78	1668.05
152.39	644462.88	78.07	1668.05
158.74	655050.31	79.35	1668.05
165.08	665637.75	80.63	1668.05
171.43	676225.19	81.91	1668.05
177.78	686812.56	83.20	1668.05
184.12	697400.00	84.48	1668.05
190.47	707987.44	85.76	1668.05
196.81	718574.88	87.04	1668.05
203.16	729162.31	88.33	1668.05
209.54	739799.88	89.62	1668.05
215.88	750387.31	90.90	1668.05
222.23	760974.75	92.18	1668.05
228.57	771562.19	93.46	1668.05
234.92	782149.56	94.75	1668.05
241.26	792737.00	96.03	1668.05
247.61	803324.44	97.31	1668.05
253.96	813911.88	98.59	1668.05
260.30	821380.38	99.50	388.67
266.65	823115.69	99.71	190.27
273.00	824023.88	99.82	106.92
279.35	824558.06	99.88	65.95
285.70	824898.50	99.92	43.51
292.05	825128.75	99.95	30.20
298.40	825291.75	99.97	21.81
304.75	825411.75	99.99	16.25
311.16	825502.00	100.00	0.00

Oil Outflow in Case of Vessel Collision for 34000 DWT Tanker

Penetration Area = 2.00 sq. ft.

Damage Length = 1.00 ft.

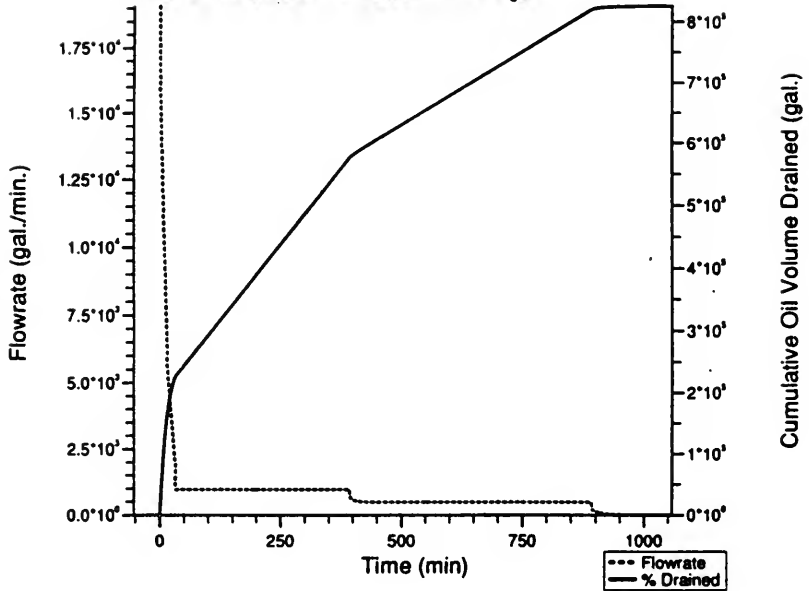
2 Tanks penetrated

Damage Height = 2.00 ft.

Height of Penetration Center with respect to Waterline = -0.2 ft.

Cumulative Oil Volume in Penetrated tank(s) = 825524.2 gal.

Total Oil Volume Leaked from Vessel = 825587.9 gal.



Tanker Collision Tanker DWT = 34000. tons

Accident Occurred in Salt Water Cargo Specific Gravity = .86

Draft = 36.0 ft

Penetration Height = 2.00 ft Penetration Length = 1.00 ft

Penetration Area = 2.0 sq. ft No. Tanks Penetrated = 2

Penetration Center w.r.t. Water Line = -0.2 ft

Time (min)	Total Outflow (gal)	% Outflow	Flowrate (gal/min)
0.12	2293.65	0.28	19081.83
21.64	196588.12	23.81	4053.39
43.27	238172.81	28.85	967.17
64.79	258982.06	31.37	967.17
86.42	279907.59	33.91	967.17
108.06	300833.09	36.44	967.17
129.58	321642.34	38.96	967.17
151.21	342567.84	41.50	967.17
172.85	363493.38	44.03	967.17
194.36	384302.62	46.55	967.17
216.00	405228.12	49.09	967.17
237.51	426037.41	51.61	967.17
259.15	446962.91	54.14	967.17
280.78	467888.41	56.68	967.17
302.30	488697.66	59.20	967.17
323.94	509623.19	61.73	967.17
345.58	530548.69	64.27	967.17
367.09	551360.81	66.79	967.17
388.73	572292.12	69.32	967.17
410.37	586702.56	71.07	520.42
431.89	597520.00	72.38	493.37
453.52	608122.56	73.67	487.89
475.04	618581.50	74.93	484.45
496.68	629064.56	76.20	484.45
518.31	639547.62	77.47	484.45
539.83	649972.50	78.73	484.45
561.46	660455.56	80.00	484.45
583.09	670938.62	81.27	484.45
604.60	681363.44	82.54	484.45
626.23	691846.50	83.81	484.45
647.75	702271.38	85.07	484.45
669.38	712754.44	86.34	484.45
691.01	723237.50	87.61	484.45
712.52	733662.31	88.87	484.45
734.15	744145.38	90.14	484.45
755.79	754628.44	91.41	484.45
777.30	765053.31	92.67	484.45
798.93	775536.38	93.94	484.45
820.56	786019.44	95.21	484.45
842.07	796444.25	96.48	484.45
863.71	806927.31	97.75	484.45
885.22	817352.19	99.01	484.45
906.85	822905.44	99.68	98.72
928.48	824255.75	99.85	38.74
949.99	824843.62	99.92	19.08
971.63	825154.12	99.96	10.73
993.26	825337.00	99.98	6.63
1014.77	825453.00	99.99	4.38
1036.41	825532.31	100.00	3.05
1058.17	825587.88	100.00	0.00

Tanker Collision Tanker DWT = 89700. tons

Accident Occurred in Salt Water Cargo Specific Gravity = .86

Draft = 49.1 ft

Penetration Height = 10.00 ft Penetration Length = 5.00 ft

Penetration Area = 50.0 sq. ft No. Tanks Penetrated = 2

Penetration Center w.r.t. Water Line = -0.3 ft

Time (min)	Total Outflow (gal)	% Outflow	Flowrate (gal/min)
0.01	5989.70	0.20	481514.53
3.40	652799.12	21.80	16527.81
6.78	708725.31	23.66	16527.81
10.16	764651.56	25.53	16527.81
13.55	820577.75	27.40	16527.81
16.93	876504.00	29.27	16527.81
20.31	932430.25	31.13	16527.81
23.71	988562.06	33.01	16527.81
27.09	1044488.31	34.88	16527.81
30.48	1100414.50	36.74	16527.81
33.86	1156340.62	38.61	16527.81
37.24	1212266.88	40.48	16527.81
40.63	1268193.12	42.35	16527.81
44.01	1324119.38	44.21	16527.81
47.41	1380251.12	46.09	16527.81
50.79	1436177.38	47.95	16527.81
54.17	1492103.62	49.82	16527.81
57.56	1548029.88	51.69	16527.81
60.94	1603956.12	53.56	16527.81
64.33	1659882.25	55.42	16527.81
67.71	1715808.50	57.29	16527.81
71.10	1771940.38	59.17	16527.81
74.49	1827866.62	61.03	16527.81
77.87	1883792.75	62.90	16527.81
81.25	1939719.00	64.77	16527.81
84.63	1995645.25	66.64	16527.81
88.02	2051571.50	68.50	16527.81
91.40	2107497.75	70.37	16527.81
94.79	2163629.50	72.24	16527.81
98.18	2219555.75	74.11	16527.81
101.56	2275482.00	75.98	16527.81
104.94	2331408.25	77.85	16527.81
108.32	2387334.50	79.71	16527.81
111.71	2443260.75	81.58	16527.81
115.09	2499186.75	83.45	16527.81
118.48	2555318.75	85.32	16527.81
121.87	2611245.00	87.19	16527.81
125.25	2667171.25	89.06	16527.81
128.63	2723097.50	90.93	16527.81
132.01	2779023.50	92.79	16527.81
135.40	2834949.75	94.66	16527.81
138.78	2890876.00	96.53	16527.81
142.17	2947008.00	98.40	16527.81
145.56	2978953.75	99.47	2293.26
148.94	2984990.00	99.67	1380.92
152.32	2988757.50	99.80	895.01
155.70	2991267.25	99.88	612.83
159.09	2993020.50	99.94	437.83
162.47	2994295.75	99.98	323.63
165.88	2995252.75	100.00	0.00

**TESTIMONY OF THE AMERICAN INSTITUTE OF MERCHANT SHIPPING,
AMERICAN PETROLEUM INSTITUTE, AMERICAN WATERWAYS OPERATORS,
INTERTANKO, AND TRANSPORTATION INSTITUTE
BEFORE THE SUBCOMMITTEE ON COAST GUARD AND NAVIGATION
COMMITTEE ON MERCHANT MARINE AND FISHERIES
ON THE IMPLEMENTATION OF THE OIL POLLUTION ACT OF 1990
SECTION 4202(a)(6) WHICH REQUIRES VESSELS CARRYING OIL
TO HAVE SPILL RESPONSE EQUIPMENT ON BOARD**

Thank you, Mr. Chairman. I am John Joeckel, Manager, Fleet Operations, Ashland Petroleum Company, and I am representing the American Petroleum Institute but speaking on behalf of five organizations here today. On this panel, we also have representatives from the American Institute of Merchant Shipping, the American Waterways Operators, the Transportation Institute, and the International Association of Independent Tanker Owners. These organizations present here represent the vast majority of vessels which are subject to the Oil Pollution Act of 1990, or OPA 90. We have joined together for the purpose of today's hearing as we have in the past before this subcommittee and as we have in the submission of comments on the Coast Guard's notice of proposed rulemaking on vessel response plans because of the extraordinary importance of the issue of discharge removal equipment for vessels carrying oil. We are also joined today by Monenco-Agra Earth and Environment International, Ltd., which, while not a member of our coalition of vessel owners and operators, brings to the table a special expertise on the matters before us today.

Because we represent the owners and operators of vessels which comprise the bulk of the regulated community, we have a strong interest in the Coast Guard's notice of proposed rulemaking on the carriage of discharge removal equipment. As has been stated, section 4202(a)(6) of OPA 90 requires vessels that are operating on the navigable waters of the U.S. and that are carrying oil or a hazardous substance in bulk as cargo to "carry appropriate removal equipment that employs the best technology economically feasible and that is compatible with the safe operation of the vessel."

The negotiated rulemaking conducted by the Coast Guard in 1992 focused in part on the issue of discharge removal equipment for vessels carrying oil. The Reg-Neg Committee was comprised of 26 individuals representing the Coast Guard, state governments, oil spill contractors, environmentalists, vessel owners and operators, and other interested groups. With the exception of Monenco-Agra Earth and Environment International, all the organizations represented on this panel participated in the Reg-Neg process in an attempt to craft practical safe and effective implementing rules to meet the statutory requirements. On March 27, 1992, the Reg-Neg Committee reached agreement on five issues associated with vessel response plans; among those was the issue of discharge removal equipment. That agreement was signed by all 26 members of the Committee. The notice of proposed rulemaking issued by the Coast Guard on September 29, 1992 largely reflected the Reg-Neg Committee's final agreement on the subject of discharge removal equipment.

As members of the Reg-Neg Committee, we continue to abide by our obligations, as expressed in the Committee's organizational protocols, to act in good faith and to support the proposed and final rules to the extent these have the same substance and effect as the Reg-Neg Committee Agreement. Our testimony today and our comments to the Coast Guard are consistent with that Agreement.

We believe that the Reg-Neg process was very effective in establishing sound, practical standards for the carriage of discharge removal equipment aboard vessels. We believe these standards are consistent with OPA 90's mandate that vessels carry "appropriate removal equipment" that is "economically feasible" and "compatible with the safe operation of the vessel." Our objective here today is to clarify what the Committee considered during the Reg-Neg process and explain why the Committee came to the agreement that it did.

As you know, under OPA 90, vessel owners and operators must plan to respond, to the maximum extent practicable, to a worst case oil spill, and to a substantial threat of such a spill. A worst case spill is defined as a discharge in adverse weather conditions of a vessel's entire oil cargo. Because the statutory requirements for vessels to carry appropriate discharge removal equipment and to have oil spill response plans are so substantially related, the Reg-Neg Committee considered both requirements concurrently. The Committee considered the relative utility of vessel-carried and shore-based equipment in responding quickly and effectively to a worst-case spill. The Committee agreed that vessel owners who could meet on-scene planning criteria for containment and removal of spilled oils should not be required to carry on-water response equipment, such as booms and skimmers, on board. These resources would be pre-staged on shore and utilized by shore-based oil spill response professionals with the necessary response training and expertise. Those officials would bring to the site of the incident the proper equipment to respond to the specific needs of the incident.

Thus, it was agreed that response resources would be required to be pre-staged to meet stringent planning standards for on-scene arrival time frames and removal capabilities based on a practical system approach under the management of trained responders.

It was also recognized by the Reg-Neg Committee that vessel crews are not trained spill responders and that the crews' primary responsibilities are to the safety of life, the vessel, and its cargo. The Committee agreed that the use of shipboard-carried response equipment during a spill event should remain within the scope of a crew member's traditional duties as a mariner. Effectively carrying out these duties, which may include the transfer of cargo from ruptured to undamaged tanks or the preparation of the vessel for salvage operations, will do considerably more to mitigate pollution than the carriage of on-water response gear aboard the ship. Complicating the crew's responsibilities in the wake of a casualty by requiring them to deploy on-water response equipment may jeopardize crew safety and will only impede the crew's ability to perform these essential tasks.

While the Reg-Neg Committee did not recommend that on-water containment and recovery equipment be carried aboard the vessel, the Committee did agree that other types of vessel-carried equipment would be consistent with the requirements of OPA and could have value in the event of a spill. After considering questions of crew safety, storage, maintenance, deployability, and effectiveness, the Committee recommended that the following equipment be required.

First, the Committee recommended that oceangoing and coastal vessels less than 400 feet long carry equipment capable of containing and removing a spill of at least seven barrels of oil from the deck of the vessel. For oceangoing and coastal vessels 400 feet or longer, the Committee agreed that the vessel carry equipment capable of containing and removing a spill of at least 12 barrels. For inland tank barges, the volume agreed to was at least one barrel. These volumes were based upon the input of all Committee members, several of whom had extensive operations experience. The equipment and supplies required to contain and remove on-deck spills include sorbents, portable pumps, protective clothing, and non-sparking hand tools.

Second, the Committee also recommended that tankers and offshore tank barges install deck-edge coamings to contain oil on deck and prevent its discharge into surrounding waters.

Third, the Committee believed that in the event of damage to the vessel, internal cargo transfer capability would be the most rapid and effective means for controlling a spill. **The Committee recommended, therefore, that tankers, oceangoing tank barges, and coastal tank barges carry suitable hoses and reducers for internal transfer of cargo to tanks or other spaces within the cargo block, unless the vessel's installed cargo piping system is sufficient for such purposes.**

Fourth, the Committee also agreed that before pumps could be used to transfer liquid cargo, the distressed vessel's crew had to know the vessel's calculated damage stability and residual structural strength characteristics. **The Committee recommended that tank vessels have prearranged, prompt access to on-board or shore-based damage stability and residual structural strength calculation programs.** This recommendation was based on the understanding that damage stability information was perhaps the most critical information a vessel's crew could have in developing an effective response when a hull failure, grounding, or stranding occurs. This information would allow prudent steps to be taken to prevent loss of additional cargo, including possible inter-ship cargo transfer from damaged to undamaged tanks or lightering activities.

The Committee also saw the need for equipment other than resources for on-deck spill containment and removal to be carried on board. For example, **the Committee agreed that it would be desirable for vessels to carry a simple spill tracking device which would facilitate location of the leading edge of an oil spill by a first response vessel.** The Committee recommended that within two years of the date of the final rule, the Coast Guard's Research and Development center should undertake and complete research, development, and evaluation of a suitable design for such a device that would be effective even in darkness and adverse weather. It was the Committee's recommendation that no later than three years after the date of the final rule, tank vessels be required to carry such a device if it is proven reliable.

More importantly, **the Committee recommended two options for requiring certain size vessels to install expensive emergency towing packages based upon IMO resolution A.535(13) (Recommendations on Emergency Towing Requirements for Tankers).** That Resolution recommends strong points, chafing chains, and fair leads at the bow and stern of a vessel. The second option combines features of the IMO towing package and the requirements included in the Prince William Sound Emergency Towing Package. Either option would facilitate a rescue vessel taking a tanker under tow with minimum involvement by the tanker crew in rigging and deploying the towing arrangement. IMO Resolution A.535(13) is only a suggested practice and not a binding requirement, yet it was the Committee's recommendation that either Option 1 or Option 2 be made mandatory.

As stated, tanker crews are most effective when they are trained to carry out traditional duties aboard ship such as damage control, stability assessment, and stopping oil outflow. Vessel owners and operators continually train their crews to ensure that they perform their jobs as mariners most effectively. Both the spill tracking device and the emergency towing packages are examples of types of equipment which, when deployed by the crew, would be consistent with the traditional responsibilities of a mariner crew. This is not the case with on-water containment and removal equipment.

At Reg-Neg, there were suggestions for a variety of types of equipment to be warehoused on board the vessel including sorbents, booms, and skimmers. The Committee carefully considered and rejected requirements for the vessel's crew to be deployed off the vessel or to use the equipment for on-water containment and recovery. Personnel involved in accidents must contend with crew safety, ship safety, and ship stability as first priorities, thereby limiting the available manpower and equipment to dedicate towards spill mitigation. It was the position of the Coast Guard and all other members of the Committee that the crew's primary responsibilities are to the safety of the vessel and containment of the cargo. Sending crew members over the side of the vessel would jeopardize their safety and the safety of the vessel and its remaining cargo.

Moreover, it was the belief of the Committee that on-board deployment of boom and skimmers by vessel crews would be ineffective. Spill events occur in a wide range of environmental conditions. These conditions include severe temperatures, wind, visibility, precipitation, heavy seas, and ice amongst other complicating factors. Any warehoused equipment would have to be effective in all these conditions. It must also be reliable, require minimal maintenance, and be effective in a variety of spill locations, with a variety

of oils, and with differing spill rates. Meeting these requirements with shore-based equipment can be difficult; doing so with vessel-carried equipment is a near impossibility.

Some companies have presented technology which purportedly allows for the deployment of boom from a vessel through the use of automatically inflating booms and remote controlled devices. Systems such as these may help ease deployment of boom from a tanker, and industry supports conducting research into the safety and feasibility of these systems. However, research to date indicates these systems do not work effectively. In fact, two reputable studies have recently been performed on tanker self-help spill recovery systems.

One study was prepared by Monenco Consultants Limited in December 1991 for the Transportation Development Centre of Transport Canada. Mr. Bruce Smedley was the principal author of this study, which examined 24 major oil spills worldwide. Review of the historical oil spill data led researchers to the conclusion that only four self-help systems were potential candidates for further evaluation and possible implementation. These are internal oil transfer; hydrostatic loading; external oil lightening and contingency planning. All of these activities require the presence of crew members on board.

Though containment booms deployed from the vessel were among the candidate self-help systems considered, the report concluded that such systems, which included remotely controlled booms, could be effectively and safely deployed only in calm weather and with the assistance of small vessel support for maneuvering and placement.

Similarly, a soon-to-be released report prepared by Battelle Northwest Laboratory for the United States Coast Guard examined 45 self-help response techniques and equipment types to assess their effectiveness. Automatic and manually deployed containment boom systems were among the equipment examined. Allowing for a 25-minute activation time, the report concluded that containment systems were effective only for a small outflow in a benign environment. The report found that with small carriers, anything bigger than the smallest tank rupture is a severe challenge to the system; and the only way to gain control of the spill is to respond more rapidly. According to the report, even this is almost hopeless with larger ruptures. Mr. Smedley is prepared to answer any technical questions the Members of the Subcommittee may have on the evaluation of self-help systems.

Regardless of how boom is deployed, experience and critical studies, such as the Temple, Barker and Sloane report prepared for INTERTANKO in September 1991, show that boom will lie alongside and against the vessel hull without assistance from workboats to hold it away at proper distance. Boom lying against the hull would contain virtually no oil. The bulk of the oil would easily escape containment. Moreover, even properly deployed boom can limit a tanker's and a salvage vessel's ability to maneuver due to the threat of fouling in the propeller.

Sea conditions must be favorable for booming operations to be effectively and safely accomplished. A case in point is our recent bout of foul weather, the "Blizzard of '93."

In addition, deployment of boom in some cases could encapsulate oil and vapors around the vessel, posing hazards to crew health and increasing the risk of fire and explosion.

Warehousing of boom for use by shoreside responders was also examined by the Reg-Neg Committee but was considered inadvisable since responders will bring equipment which their personnel are trained to use to the scene. Shore-based responders present at Reg-Neg expressed their desire to use their own equipment, which would be better suited to the particular type of oil spilled and which they consider more reliable than on-board equipment, the condition and level of maintenance of which are unknown.

Boom is only one part of the entire response equation. The Reg-Neg Committee understood that boom alone cannot indefinitely contain an oil spill. Other parts of the response system must be present. Workboats must be on scene to maneuver and hold boom at proper distance from the vessels; skimmers must be available to recover contained oil before it escapes; temporary storage barges are required to hold the recovered oil; and an entire array of lightering resources, including pumps, tenders, and hoses must be readily accessible. First and foremost, there must be sufficient trained response personnel on scene to manage the entire system safely and effectively. Vessels simply cannot carry on board sufficient resources, including both equipment and trained personnel, to satisfy a system approach. These capabilities can only be provided by pre-staged resources ashore. The Reg-Neg Committee understood this and agreed to focus on ensuring the availability of sufficient shore-based response resources to mount a safe and effective on-water response.

In conclusion, it is important to remember that consistent with the requirements of section 4202(a)(6) of OPA 90, the Reg-Neg Committee did recommend that certain types of response equipment be carried aboard tank vessels. We believe the equipment required in the Coast Guard's proposed rule represents the best technology economically feasible that is compatible with the safe operation of the vessel. We will continue to work with the Coast Guard to produce a practical and workable set of regulations consistent with the legislative intent of OPA 90. We believe this objective was achieved in the Coast Guard's proposed rule on discharge removal equipment for vessels carrying oil. We respectfully request, Mr. Chairman, that your Committee join us in support of the proposed rule.

Thank you, Mr. Chairman. We appreciate this opportunity to testify and would be pleased to answer any questions you may have.

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WRITTEN TESTIMONY OF ENDTECH, INC.

TO THE HOUSE SUBCOMMITTEE ON
COAST GUARD AND NAVIGATION

HEARING ON THE IMPLEMENTATION OF
SECTION 4202(a)(6) OF THE OIL POLLUTION ACT OF 1990
REQUIRING OIL-CARRYING VESSELS
TO CARRY DISCHARGE RESPONSE EQUIPMENT

March 31, 1993

Prepared with the
assistance of:

David W. Burgett
James D. Freeman
Hogan & Hartson

Endtech, Inc. appreciates this opportunity to present its views on the Coast Guard's implementation of Section 4202(a)(6) of the Oil Pollution Act of 1990 ("Oil Pollution Act" or "the Act"). Endtech designs oil skimming equipment and vessels that, unlike other currently available skimmers, are capable of being operated in open seas under less-than-ideal conditions. Key aspects of Endtech's skimmer designs have already been tested by official bodies of certification such as Lloyd's Register of Shipping and the Italian National Institute for Naval Architecture Studies and Experiences. Further testing of the full design and oil conveying apparatus, as well as the skimming mechanism itself, is planned to be conducted at the U.S. Navy's David Taylor Research Center later this year. Endtech has patent applications pending for its vessels and towed skimming systems in both the United States and Europe and has already sold other skimmers in Europe.

Endtech is interested in ensuring that the regulations promulgated under the Oil Pollution Act fulfill the Act's directive requiring vessels operating in the navigable waters of the United States and carrying oil in bulk as cargo to carry discharge removal equipment on board that reflects the best technology economically feasible. Since most cleanup activities are likely to be conducted from vessels that do not carry oil, Endtech also is interested in ensuring that the Coast Guard implements the congressional purpose reflected in the Oil Pollution Act by requiring the oil shipping industry to use recovery vessels that carry the best cleanup technology

economically feasible when the agency reviews and approves Vessel Response Plans and National and Area Contingency Plans pursuant to 33 U.S.C. §§ 1321(j)(5), 1321(d) and 1321(j)(4).

I. CONGRESSIONAL INTENT IN ENACTING THE OIL POLLUTION CONTROL ACT

Congress enacted the Oil Pollution Act in response to four major oil spills near coastal areas of the United States in the late 1980s. See S. Rep. No. 94, 101st Cong., 2d Sess. 2 (1990), reprinted in 1990 U.S.C.C.A.N. 722, 723-24. Each of these oil spills severely damaged the surrounding marine environment. The largest and most publicized of the spills, the Exxon Valdez disaster, released eleven million gallons of oil into Prince William Sound, Alaska. Id. Congress noted that the disaster "was exacerbated greatly by the unreasonably slow, confused and inadequate response by industry and government that failed miserably in containing the spill and preventing damage." Id.

The Oil Pollution Act contains several provisions designed to ensure the adequacy of future response actions. Section 4202(a)(6), the subject of this hearing, requires the President to promulgate regulations requiring "vessels operating on navigable waters and carrying oil or a hazardous substance in bulk as cargo to carry appropriate removal equipment that employs the best technology economically feasible and that is compatible with the safe operation of the vessel." 33 U.S.C. § 1321(j)(6)(B). Congress certainly envisioned that the

technology considered and eventually required would assist government and industry disaster relief workers in their efforts to contain future oil spills of a magnitude comparable to the Exxon Valdez disaster.

The language of the statute reflects the congressional desire to set standards for removal equipment for on-water containment and removal of oil spills. The terms "remove or removal" are defined as the "containment and removal of the oil or hazardous substances from the water and shorelines or the taking of such other actions as may be necessary to minimize or mitigate damage to the public health or welfare"

33 U.S.C. § 1321(a)(8) (emphasis supplied). Thus, the language of the statute does not limit discharge removal equipment to on-deck removal; in fact, its focus is on on-water removal of oil. There is thus no doubt that Congress intended the "best technology economically feasible" standard to be applied to on-water oil removal equipment.

II. THE COAST GUARD'S PROPOSED RULE

Despite this clear congressional intent, the proposed rule issued by the Coast Guard does not require any technology, much less the best technology, for the removal of discharges into the water. See 57 Fed. Reg. 44,912, 44,915 (Sept. 29, 1992). Instead, the proposed regulation focuses on on-deck discharges. For example, vessels greater than 400 feet in length need only

carry discharge removal equipment that is capable of removing on-deck spills of up to twelve barrels under the proposed rule. Id. at 44,919. While the containment and removal of on-deck oil spills is certainly deserving of attention, such spills are trivial in comparison to the large on-water oil spills that Congress was concerned about in enacting the Oil Pollution Act.

According to the preamble to the proposed rule, the Coast Guard did not require vessels to warehouse on-water containment and removal equipment because the primary responsibilities of a vessel's crew are the safety of the vessel and the containment of the cargo. Id. at 44,915. The Coast Guard also claims that deployment of crew members in on-water removal action may jeopardize their safety and the safe operation of the vessel. Id. As an alternative to requiring the warehousing of on-water removal equipment, the negotiated rulemaking committee "agreed to set on-scene planning criteria for on-water containment and removal of spilled oil. Vessel owners or operators could meet these planning criteria with carried equipment or rapid mobilization of shore-based equipment." Id. In other words, the Coast Guard proposes to give operators flexibility in determining where to base the necessary technology, subject to the contingency plan approval process.

In considering the feasibility and effectiveness of on-board equipment, one needs to distinguish containment from

removal systems. It may be that containment devices can play a role in reducing the spread of an oil slick pending the arrival of shore-based equipment.

Skimming equipment is another story. Endtech agrees that on-water removal should not compromise crew-member safety or the safe operation of vessels carrying oil. Moreover, specially-designed and equipped shore-based recovery vessels will often be more effective than tanker-based systems. Use of shore-based recovery vessels would permit a more flexible response, with vessels capable of operating under a wide range of working conditions, including water depth, sea bottom configuration, and the magnitude of the oil spill. The vessels will also provide response teams with the capability to transport some "first intervention" equipment by air cargo. For these reasons, Endtech believes that the most effective spill response strategy would integrate use of shore-based recovery vessels and on-board containment equipment. However, if such flexibility is to be accorded, it is absolutely critical that the Coast Guard require operators to utilize the best technology feasible for shore-based removal equipment. Otherwise, operators would be able to avoid utilizing the best technology by opting to use only shore-based systems. Such a result would contravene the congressional purpose in enacting the Oil Pollution Act. Therefore, the Coast Guard must apply the "best technology economically feasible" standard to shore-based technology proposed in vessel response and contingency plans.

This would be perfectly consistent with the Act's provisions on review of plans. Requiring vessel response plans and area contingency plans to call for the use of removal equipment that utilize the best technology economically feasible is consistent with the provisions of the Act mandating these plans. Section 4202(a)(6) requires area contingency plans to "list the equipment . . . available to an owner or operator and Federal, State, and local agencies, to ensure an effective and immediate removal of a discharge" 33 U.S.C.

§ 1321(j)(4)(C)(iv) (emphasis supplied). The same section of the Act also requires vessel owners to submit response plans that "identify . . . private personnel and equipment necessary to remove to the maximum extent practicable a worst case discharge" *Id.* § 1321(j)(5)(C)(iii) (emphasis supplied). Thus, both provisions contain independent requirements for utilization of the most effective removal equipment technology possible. The Coast Guard must ensure that this congressional mandate is reflected in its regulations.

III. THE COAST GUARD MUST DEVELOP OBJECTIVE STANDARDS FOR COMPARING OIL SPILL REMOVAL TECHNOLOGIES.

The Oil Pollution Act also displays a clear congressional intent to establish objective standards for the evaluation of oil spill removal technologies. For example, Section 7001(b)(2) of the Act states: "The National Institute of Standards and Technology shall provide the Interagency Committee

with advice and guidance on issues relating to quality assurance and standards measurements relating to its activities under this section." 33 U.S.C. § 2761(b)(2). In addition, Section 7001(c)(3) requires the establishment of "standards and testing protocols traceable to national standards to measure the performance of oil pollution prevention or mitigation technologies" Id. § 2761(c)(3).

Neither the Interagency Committee nor the Coast Guard has established the objective standards for determining the best technology envisioned in the Oil Pollution Act. The Coast Guard's failure to establish objective standards in its proposed rule creates several serious problems. Most importantly, vessel owners and oil spill response authorities will be unable to make sound, objective decisions when choosing between competing technologies. If vessel owners and oil spill response authorities unknowingly purchase less effective equipment, it will diminish their ability to respond to oil spills.

The introduction of objective standards also would create market-based incentives to improve discharge removal technologies. When faced with competing technologies, the oil transport industry would be more likely to purchase equipment that has been determined to be the most effective in real-world conditions. This would create a corresponding incentive for the discharge removal industry to develop new removal systems and improve existing equipment.

Finally, the existence of objective standards would enable a more honest valuation of oil spill response capabilities. As the Coast Guard's proposed and interim final regulations implementing the Oil Pollution Act now stand, skimmer effectiveness may be measured by the removal capacity stated on the skimmer's nameplate. However, the nameplate capacity is not based on actual test results under realistic conditions, but on theoretical maximum throughput, which is likely to overstate real performance by many times. Thus, the removal capacity listed on skimmer nameplates does not reflect skimmers' true capabilities. The misleading removal capacity information on skimmer nameplates has two consequences. First, vessel owners and other spill response authorities have much smaller true response capacities than reliance on nameplate capacity would indicate. Second, vessel owners and other spill response authorities cannot easily determine whether one type of removal equipment will be more successful at removing spilled oil under real-world conditions than another. These shortcomings are not cured by the application of an arbitrary "efficiency factor" of 20%, as provided for in the related vessel response plan interim final rules. See 58 Fed. Reg. 7376, 7413, 7442 (Feb. 5, 1993). Multiplication of a meaningless and unreliable number by this factor simply results in another meaningless figure and fails utterly to distinguish technology that is effective under real conditions from that which is not.

Accordingly, the Coast Guard's failure to establish objective standards to measure discharge removal capability acts as a disincentive to the development of more efficient removal technology. To ensure that oil spill recovery efforts achieve the most effective response possible, the Coast Guard should establish objective test standards and require vessel response plans and area contingency plans to use the on-water removal equipment that achieves the best test results. Only then would the Coast Guard meet the congressional objectives of the Oil Pollution Act.

The Coast Guard can establish objective standards for determining the effectiveness of discharge removal technology relatively easily. The American Society for Testing and Materials ("ASTM") has developed performance standards for skimmer equipment, including the Standard Test Method for Full Scale Advancing Spill Removal Devices (Standard No. F631-80) and the Standard Guide for Collecting Skimmer Performance Data in Uncontrolled Environments (Standard No. F808-83). ASTM is currently revising these standards to reflect industry capabilities more accurately. Moreover, skimmer technology may be evaluated at the Oil and Hazardous Materials Simulated Test Tank ("OHMSETT") Research Center, the David Taylor Research Center, or other test tank facilities to determine comparative performance levels applying OHMSETT and ASTM standards. Accordingly, the Coast Guard may look to objective performance standards already developed by the private sector.

It is our hope that the Subcommittee will address in future hearings and, if necessary, legislation, the need for planning based on objective performance standards and mandatory testing of all devices used to meet Oil Pollution Act requirements.

Thank you for considering this testimony.

HOGAN & HARTSON

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November 16, 1992

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BALTIMORE MD
BETHESDA MD
MILAN VA

BY HAND

Executive Secretary
Marine Safety Council
U.S. Coast Guard Headquarters
Room 3406
2100 Second Street, SW
Washington, DC 20593-0001

Re: CGD 90-068

Dear Sir or Madam:

These comments are submitted on behalf of Endtech, Inc. in response to the Coast Guard's proposed rule regarding Discharge Removal Equipment for Vessels Carrying Oil. See 57 Fed. Reg. 44,912 (Sept. 19, 1992).

INTEREST OF ENDTech

Endtech designs oil skimming equipment and vessels that, unlike other currently available skimmers, truly are capable of being operated in open seas. Some of its designs have already been tested by official bodies of certification such as Lloyd's Register of Shipping and the Italian National Institute for Naval Architecture Studies and Experiences and put into service in Europe. Endtech has patent applications pending for this equipment in both the United States and Europe. Thus, Endtech is interested in ensuring that the regulations promulgated under the Oil Pollution Act of 1990 ("Oil Pollution Act" or "the Act") fulfill the Act's directive that requires vessels operating in the navigable waters of the United States and carrying oil in bulk as cargo to carry discharge removal equipment on board that reflects the best technology economically feasible. Since most cleanup activities are likely to be conducted from vessels that do not carry oil, Endtech is also interested in ensuring that the Coast Guard implements the congressional purpose reflected in the Oil Pollution Act by requiring the oil shipping industry to use recovery vessels that carry the best cleanup technology.

HOGAN & HARTSON

Executive Secretary
 Marine Safety Council
 November 16, 1992
 Page 2

economically feasible when the agency reviews and approves Vessel Response Plans and National and Area Contingency Plans pursuant to 33 U.S.C. §§ 1321(j)(5), 1321(d) and 1321(j)(4).

CONGRESSIONAL INTENT IN ENACTING THE OIL POLLUTION CONTROL ACT

Congress enacted the Oil Pollution Act in response to four major oil spills near coastal areas of the United States in the late 1980s. See S. Rep. No. 94, 101st Cong., 2d Sess. 2 (1990), reprinted in 1990 U.S.C.C.A.N. 722, 723-24. Each of these oil spills severely damaged the surrounding marine environment. The largest and most publicized of the spills, the Exxon Valdez disaster, released eleven million gallons of oil into Prince William Sound, Alaska. *Id.* Congress noted that the disaster "was exacerbated greatly by the unreasonably slow, confused and inadequate response by industry and government that failed miserably in containing the spill and preventing damage." *Id.*

The Oil Pollution Act contains several provisions designed to ensure the adequacy of future response actions. One important provision, Section 4202(a)(6), requires the President to promulgate regulations requiring "vessels operating on navigable waters and carrying oil or a hazardous substance in bulk as cargo to carry appropriate removal equipment that employs the best technology economically feasible and that is compatible with the safe operation of the vessel." 33 U.S.C. § 1321(j)(6)(B). Congress certainly envisioned that the technology considered and eventually required would assist government and industry disaster relief workers in their efforts to contain future oil spills of a magnitude comparable to the Exxon Valdez disaster.

The language of the statute reflects the congressional desire to set standards for removal equipment for on-water containment and removal of oil spills. The terms "remove or removal" are defined as the "containment and removal of the oil or hazardous substances from the water and shorelines or the taking of such other actions as may be necessary to minimize or mitigate damage to the public health or welfare" 33 U.S.C. § 1321(a)(8) (emphasis supplied). Thus, the language of the statute does not limit discharge removal equipment to on-deck removal; in fact, its focus is on on-water removal of

HOGAN & HARTSON

Executive Secretary
Marine Safety Council
November 16, 1992
Page 3

oil. There is thus no doubt that Congress intended the "best technology economically feasible" standard to be applied to on-water oil removal equipment.

THE PROPOSED RULE

However, the proposed regulation focuses on on-deck discharges. It does not require any technology, much less the best technology, for the removal of discharges into the water. While the containment and removal of on-deck oil spills is certainly deserving of attention, such spills are trivial in comparison to the large on-water oil spills that Congress was concerned about in enacting the Oil Pollution Act. ^{2/}

According to the preamble to the proposed rule, the Coast Guard did not require vessels to warehouse on-water containment and removal equipment because the primary responsibilities of a vessel's crew are the safety of the vessel and the containment of the cargo. Id. at 44,915. Moreover, deployment of crew members in on-water removal action may jeopardize their safety and the safe operation of the vessel. Id. As an alternative to requiring the warehousing of on-water removal equipment, the negotiated rulemaking committee "agreed to set on-scene planning criteria for on-water containment and removal of spilled oil. Vessel owners or operators could meet these planning criteria with carried equipment or rapid mobilization of shore-based equipment." Id. In other words, the Coast Guard proposes to give operators flexibility in determining where to base the necessary technology, subject to the contingency plan approval process.

Endtech agrees that on-water removal should not compromise crew-member safety or the safe operation of the vessel. Moreover, specially-designed and equipped shore-based

^{2/} For example, discharge removal equipment for on-deck spills for vessels greater than 400 feet in length need only be capable of removing spills of up to twelve barrels. 57 Fed. Reg. at 44,919.

HOGAN & HARTSON

Executive Secretary
Marine Safety Council
November 16, 1992
Page 4

recovery vessels will often be more effective than tanker-based systems. Use of shore-based recovery vessels would permit a more flexible response, with vessels capable of operating under a wide range of working conditions, including water depth, sea bottom configuration, and the magnitude of the oil spill. The vessels will also provide response teams with the capability to transport some "first intervention" equipment by air cargo. For these reasons, Endtech does not disagree in principle with the concept of using the best feasible shore-based systems as an alternative to warehousing on-water removal equipment aboard vessels that carry oil. However, if such flexibility is to be accorded, it is absolutely critical that the Coast Guard require operators to utilize the best technology feasible for shore-based removal equipment. Otherwise, operators would be able to avoid utilizing the best technology by opting to use only shore-based systems. Such a result would contravene the congressional purpose in enacting the Oil Pollution Act. Therefore, the Coast Guard must apply the "best technology economically feasible" standard to shore-based technology proposed in vessel response and contingency plans.

This would be perfectly consistent with the Act's provisions on review of plans. Requiring vessel response plans and area contingency plans to call for the use of removal equipment that utilize the best technology economically feasible is consistent with the provisions of the Act mandating these plans. Section 4202(a)(6) requires area contingency plans to "list the equipment . . . available to an owner or operator and Federal, State, and local agencies, to ensure an effective and immediate removal of a discharge . . ." 33 U.S.C. § 1321(j)(4)(C)(iv) (emphasis supplied). The same section of the Act also requires vessel owners to submit response plans that "identify . . . private personnel and equipment necessary to remove to the maximum extent practicable a worst case discharge . . ." *Id.* § 1321(j)(5)(C)(iii) (emphasis supplied). Thus, both provisions contain independent requirements for utilization of the most effective removal equipment technology possible. The Coast Guard must ensure that this congressional mandate is reflected in its regulations.

The Oil Pollution Act also displays a clear congressional intent to develop objective standards for developing innovative technologies for oil pollution prevention and to establish objective standards for the evaluation of such technologies. For example, Section 7001(b)(2) of the Act

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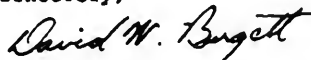
Executive Secretary
 Marine Safety Council
 November 16, 1992
 Page 5

states: "The National Institute of Standards and Technology shall provide the Interagency Committee with advice and guidance on issues relating to quality assurance and standards measurements relating to its activities under this section." 33 U.S.C. § 2761(b)(2). In addition, Section 7001(c)(3) requires the establishment of "standards and testing protocols traceable to national standards to measure the performance of oil pollution prevention or mitigation technologies" *Id.* § 2761(c)(3).

While the Interagency Committee has not yet endorsed standards as envisioned in the Oil Pollution Act, industry has established national standards by which the Coast Guard can determine what discharge removal technology is most effective. The American Society for Testing and Materials ("ASTM") has developed performance standards for skimmer equipment, including the Standard Test Method for Full Scale Advancing Spill Removal Devices (F631-80) and the Standard Guide for Collecting Skimmer Performance Data in Uncontrolled Environments (F808-83). ASTM is currently revising these standards to reflect industry capabilities more accurately. Skimmer technology may be evaluated at the Oil and Hazardous Materials Simulated Test Tank ("OHMSETT") Research Center to determine comparative performance levels applying OHMSETT and ASTM standards. To ensure that oil spill recovery efforts achieve the most effective response possible, the Coast Guard should require vessel response plans and area contingency plans to utilize the on-water removal equipment that achieves the best test results under these objective standards. The Coast Guard can only meet the congressional objectives of the Oil Pollution Act by requiring the use of the best on-water discharge removal equipment as recognized by the application of objective national standards.

Thank you for considering these comments. Please contact the undersigned if we can provide any further information.

Sincerely,



David W. Burgett

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March 12, 1993

The Honorable Congressman Billy Tauzin
U.S. House of Representatives
Committee on Merchant Marine and Fisheries
Subcommittee on Coast Guard and Navigation
Room 541, House Annex #2
Washington, D.C. 20515-6230

ATTN: Mr. Jim Adams, Professional Staff, Subcommittee on
Coast Guard and Navigation
VIA FAX: (202) 225-5465
Re: Subcommittee on Coast Guard and Navigation
18 March 1993 Hearing

Dear Sir:

The purpose of this letter is to submit testimony for the record on the issue of requiring tank-vessels to carry oil spill response equipment which could assist in salvage of a casualty. As we have stated in past correspondence, we feel that the regulations established under the mandate to the U.S. Coast Guard (USCG), although specific with regards to spill-response, do not adequately require preventative measures to mitigate or prevent the substantial threat of the worst case discharge as defined by OPA'90.

As evidence of our competency on this issue, we submit our experience of being under contract since 1979 to the Dept. of the Navy, Naval Sea Systems Command, Office of the Supervisor of Salvage and Diving (NAVSEA-SUPSALV), to provide salvage and salvage-related services. Capt. R. Fiske (SUPSALV-Code 00C) can confirm our experience, capabilities, and expertise as it relates to salvage and related services. Our company is also represented on the Executive Committee of The International Salvage Union (ISU).

Salvage is clearly the first line of defense against the substantial threat of the worst case discharge. The USCG recognizes this fact when they define "the substantial threat" in Navigation and Vessel Inspection Circular 8-92 (NVIC 8-92) as "any incident involving a vessel that may create a significant risk of discharge of fuel or cargo oil. Such incidents include but are not limited to groundings, strandings, collisions, hull

March 12, 1993

The Honorable Congressman Billy Tauzin
U.S. House of Representatives
Committee on Merchant Marine and Fisheries
Subcommittee on Coast Guard and Navigation

damage, fire, explosion, loss of propulsion, flooding, on-deck spills or other similar occurrences."

On-board equipment such as emergency towing gear, and high capacity over-the-top lightering equipment is only a good idea if trained personnel deploy and operate such equipment. Whereas crew safety is paramount, a dangerous situation arises when untrained personnel deploy and operate emergency equipment. These operations are best left to an experienced salvor.

Regarding emergency tow gear, the recent BRAER incident off the coast of Scotland is a perfect example. Neither the BRAER's crew nor the crew of the 9,000 horsepower tug, which attended the emergency had experience in deploying an emergency towline in rough weather.

Regarding lightering, the assumption that vessel-borne lightering gear provides an emergency over-the-top transfer capability also assumes at a minimum that:

- o a cargo-receiving vessel is immediately available,
- o and the crew can accurately analyze the vessel's structural and stability conditions before, during and after lightering.

This is not the case in a real life situation involving emergency cargo-transfers under deteriorating weather conditions.

The best way to ensure a competent level of emergency towing and lightering response is to strengthen the OPA '90 requirements for a vessel operator to ensure the availability of capable and experienced salvage resources. Presently, a vessel operator only must certify that they have written consent of a salvor. Response times, resource descriptions, personnel experience, are not clearly defined as criteria to determine capabilities. A dangerous situation results, where "yellow-page" salvors are

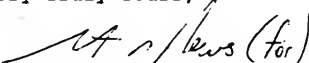
March 12, 1993

The Honorable Congressman Billy Tauzin
U.S. House of Representatives
Committee on Merchant Marine and Fisheries
Subcommittee on Coast Guard and Navigation

being utilized in response planning.

If the subject of salvage is to be discussed at an alternative hearing, we are willing to present our views at such a hearing. We thank you for your courtesies.

Very Truly Yours,


John A. Witte - President

SGN/sgn

States / British Columbia Oil Spill Task Force

*John Sander**Gerry Armstrong**Pete Bontadelli**Fred Hansen**Ted Olson/**Barbara Herman**Alaska**British Columbia**California**Oregon**Washington**Dept. of Environmental
Conservation**B.C. Environment
Lands & Parks**Office of Oil Spill
Prevention and Response**Department of
Environmental Quality**Department of Ecology/
Office of Marine Safety*

November 16, 1992

Executive Secretary
Marine Safety Council (G-LRA/3406)IGCD 90-068)
U.S. Coast Guard Headquarters
2100 Second Street SW
Washington, D.C. 20593-0001

Dear Executive Secretary:

Thank you for the opportunity to provide comments on the September 29, 1992 Notice of Proposed Rulemaking for Discharge Removal Equipment for Vessels Carrying Oil.

The States/British Columbia Oil Spill Task Force includes members of the environmental agencies of Alaska, British Columbia, Washington, Oregon and California. The Task Force has been meeting on a regular basis since the Exxon Valdez spill to address ways to prevent oil spills and better coordinate spill response on the west coast. In October 1990, the Task Force published a report which included 46 joint recommendations on ways to improve oil spill prevention and response. Among those recommendations was one to require onboard response equipment.

The Washington Office of Marine Safety and the Department of Ecology co-chair the Task Force Spill Prevention and Contingency Planning Committee. The focus of this Committee, whose membership includes a representative from each member state or province, is to examine issues affecting industry. The remarks that follow have been reviewed by the members of the committee and represent their joint views. Individual members may be submitting their own comments under a separate cover letter.

GENERAL COMMENTS:

The Task Force is supportive of the proposed regulations. They represent another step toward providing the best achievable protection of our marine environment. We recommend the Coast Guard define the term "on-deck" oil spill. There is confusion among the Task Force members about its interpretation. More discussion on the intent and scope of this regulation might also help clarify this issue.



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Marine Safety Council
November 16, 1992
Page 2

SPECIFIC COMMENTS:

1. The Task Force places a great emphasis on oil spill prevention. Therefore, we strongly support a standardized towing package for all tankers to ensure that emergency responders need only be familiar with one system. In addition, we favor implementing the Option 2 towing package which includes the Prince William Sound Emergency Towing Package. The severe weather conditions frequently encountered in the northwest require the best possible safeguards. It is our opinion that Option 2 offers substantial extra security and we commend you for the spill prevention value of the proposal.
2. Although it has been argued that having equipment on board the vessel to deploy once the spill has entered the water is not feasible, a study by Battelle and commissioned by the Coast Guard, entitled "Investigation of Self-Help Oil-Spill Response Techniques and Equipment", indicates that there may be other options available. The study also suggests more research is needed in this area. We suggest that the regulations be written in such a way to leave room for future improvements in technology.
3. We support the Committee's recommendation to use OPA 90 funds to conduct research on a reliable, practical device to facilitate the location of the leading edge of an oil spill.
4. We also strongly support requiring prearranged, prompt access to computerized onboard or shore-based damage stability and residual structural strength calculation programs.

Once again, we appreciate the opportunity to comment. If you have any questions regarding the comments, please call me at the Office of Marine Safety (206) 664-9118.

Sincerely,

Bruce Sutherland, Co-Chair
Spill Prevention and Contingency Planning Committee

cc: Task Force Committee Members



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